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PRELIMINARY DRAFT

of

REVISIONS TO THE RHODE ISLAND

COASTAL RESOURCES MANAGEMENT PROGRAM

September, 1982

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459.4  
.R46  
1982



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

COASTAL RESOURCES MANAGEMENT COUNCIL

60 Davis Street  
Providence, R.I. 02908

September 14, 1982

Dear Friend

These revisions reflect ten years of experience in regulating activities in Rhode Island's tidal waters and along its shore. The suggested changes to the Program adopted by the Council in 1977 will streamline the permitting process and make it easier for applicants for Council Assents to know in advance which proposals are likely to have significant impact on the coastal environment and will therefore be closely scrutinized and which are likely to be approved with minimal difficulty. The revised Program will direct further alterations to the coastal environment to those specific geographic locations where they will complement existing activities and have minimal impacts on the environment. The changes proposed here to the Council's permitting process will be complemented by detailed management plans for Providence Harbor and six south shore salt ponds. Preliminary drafts of detailed Special Area Management Plans for these areas are scheduled for release within the next four to six months.

The Working Group on Program Revision has been meeting regularly during the past 12 months to review this document and the full Council has endorsed the principals that underlie the suggested revisions. In keeping with the tradition established by the open planning process we found so constructive when preparing the 1977 Program, the Council is releasing this Preliminary Draft for public review and comment. We are well aware that the revisions need refinement and that several important issues are yet to be resolved. Our schedule allows ample time for review, and we look forward to hearing your ideas on how the management of our state's precious coastal resources can be further improved.

An initial public workshop to discuss these revisions is scheduled for September 29 at 7:30 p.m. in the auditorium of the Cannon Building, 75 Davis Street in Providence.

Sincerely

*John A. Lyons*  
John A. Lyons  
Chairman

COASTAL RESOURCES MANAGEMENT COUNCIL

US Department of Commerce  
NOAA Coastal Services Center Library  
2234 South Hobson Avenue  
Charleston, SC 29405-2413

PRELIMINARY DRAFT

of

REVISIONS TO THE RHODE ISLAND  
COASTAL RESOURCES MANAGEMENT PROGRAM

Prepared By

The Coastal Resources Center, URI Graduate  
School of Oceanography

for

The Working Group on Program Revision: Coastal Resources  
Management Council, John A. Lyons, Alvaro Freda, William  
Miner, Barbara Colt, John Neary; Department of Environmental  
Management, Malcolm Grant, James Beattie, Frank Geremia, Lee  
Whitaker, Nicholas Pisani, James Parkhurst, Linda Steere.

September, 1982

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INTRODUCTION  
THE OBJECTIVES FOR REVISIONS TO THE CRMC'S  
PERMITTING PROGRAM

The primary purpose of the Rhode Island Coastal Resources Management Program adopted in 1977 was to demonstrate the state's eligibility for a federally approved 306 program. The 500-page Program successfully met the many and complex federal requirements and has made the state eligible for management grants but it has proved to be clumsy and at times inappropriate as the basis for day to day regulatory decisions. The Council was well aware in 1977 that the Program would need refinement and this was stated repeatedly at the public workshops and hearings that preceeded adoption.

In fact the revision process began immediately. Detailed amendments regarding energy facility siting were adopted in September 1978 at a time when it appeared that the Council would become deeply involved in the siting of several major facilities including a nuclear power plant at Charlestown, a possible LNG terminal on Prudence Island and a large offshore oil staging base at Quonset/Davisville. In 1980, administrative procedures were reviewed and modified and the Coastal Resources Center prepared a summary of the CRMC's regulations and policies that revealed several deficiencies in the Program as the basis by which the CRMC and its support staff evaluate and act upon applications for Assents. Shortly thereafter the CRMC and its staff discussed problems and opportunities for improving the Program at a one day workshop at the Marriott Hotel in Providence. In 1981 important amendments were made to Section 120 of the Program to give the Executive Director the authority to review proposed activities on shoreline features and issue what became known as "Letters of No Objection" to persons proposing activities that would not have a significant

impact on the coastal environment and are in conformance with the Program. This has greatly reduced the paperwork and avoids lengthy permitting procedures for minor activities. Other amendments addressed activities in marinas and the mooring of houseboats and floating businesses. In the fall of 1981 CRMC subcommittees were formed to develop detailed Special Area Management Plans for areas identified as requiring priority attention when the original Program was prepared in 1977 (the salt ponds and Providence Harbor) and a working group began to prepare the revisions to the Program that form the attached Preliminary Draft. The principals that underlie these revisions have been endorsed by the Council and are presented here as a Preliminary Draft for public review and comment. Once the goals and substance of the revisions have been fully aired with sister state agencies, federal agencies, local governments and the public, a formal draft will be prepared and put out to public notice. Our schedule calls for a public hearing on the formal draft by January, 1983. This provides ample time for comment and discussion.

Priorities for a Revised Program. The following issues underlie the proposed revisions.

1. Federal 306 funds that support many of the CRMC's support staff in the Department of Environmental Management and at the URI Coastal Resources Center will probably no longer be available as of June 1983 when all federal support for all coastal management programs through the Office of Coastal Zone Management (Department of Commerce) is expected to terminate. Federal funding in support of the Program may be generated from other sources but there is great uncertainty over the outcome of legislation now before Congress that would provide an alternative source of funding. The revised Program should, therefore, be designed so that two or three

full-time staff can perform all the necessary support work for the regulatory program. It must be possible for routine matters to be handled by staff acting in a similar manner to municipal building inspectors and without the necessity of field inspections on all proposals.

2. The Program must clearly differentiate between a) routine matters that can be handled administratively and that are likely to be approved if construction and siting standards are met (Category A) and b) major alterations that require a case-specific environmental assessment (Category B).
3. Construction and siting standards that have been developed over the past several years and are now routinely attached to Assents as stipulations will be incorporated into the Program.
4. The "burdens of evidence" for routine activities are not appropriate and should be replaced by construction standards. Burdens of Evidence must be reaffirmed, however, as the basis for an evaluation of decisions on major alterations. Applicants for Category B Assents will therefore be required to address, in writing, all applicable Burdens of Evidence.
5. The Program will set forth the criteria that the Council will apply when deciding whether to approve a Category B activity, grant relief to standards or make a Special Exception to a prohibited activity.
6. The present Program gives applicants little guidance on how proposed alterations should be designed and built, which proposals are likely to be approved and which are likely to run into trouble. The revised Program will be far more explicit about how management policies are applied to discrete geographic areas.



7. A major change in the revisions<sup>✓</sup> is the allocation of all waters to one of six use categories. Council policies and prohibitions are now linked to specific geographic areas. Once the revisions are complemented by detailed Special Area Plans scheduled for completion in 1983, the state will have an effective means for managing the cumulative impact of individually insignificant alterations to the coastline.
8. Inland activities that may be subject to Council permitting are more clearly defined. The revised Program would require all residential subdivisions of six units or more proposed in coastal cities and towns to go through a screening process to determine whether impacts on the coastal environment are likely and therefore whether a Council Assent will be required. The same procedure may be applied to other developments that entail 50 or more parking spaces. The Council will continue to review all proposals, regardless of their location, for power generating facilities, municipal sewage treatment facilities, minerals extraction and alterations to the quality or quantity of tributaries to tidal waters.

The emphasis of <sup>our</sup>~~the~~ work to date has been to work out the concepts, not to hone language or make the document attractive. The Working Group recognizes that Findings in the existing Program are important and have served the legal staff well in the courts. We propose to insert summary findings as a preamble to each section in Part III of the revision. The Policies and Regulations in the existing Program will be replaced in their entirety.

## PART ONE

## AUTHORITIES AND PROCEDURES

SECTION 110 THE MANDATE OF THE COASTAL RESOURCES MANAGEMENT COUNCIL

The Coastal Resources Management Council was created by the Rhode Island Legislature in 1971 as the principal mechanism for management of the state's coastal resources. The Council consists of 17 members appointed by the Governor, the Lieutenant Governor and the Speaker of the House and must include at least four local officials representing communities of various sizes. The Council's legislative mandate is clear:

"...it shall be the policy of this state to preserve, protect develop and where possible, restore the coastal resources of the State for this and succeeding generations through comprehensive and coordinated long-range planning and management designed to produce the maximum benefit for society from such coastal resources; and that preservation and restoration of ecological systems shall be the primary guiding principle upon which environmental alteration of coastal resources will be measured, judged, and regulated."

The Council has permitting authority over all activities between the mean high water mark and the limits of the State's territorial sea, the entire shoreline and those inland activities that may significantly affect the environment of the coastal region.

The Council's responsibilities are not limited to regulation and include planning and research efforts that are essential to any effort to manage heavily utilized and complex coastal ecosystems. The Council relies on the Division of Coastal Resources of the Department of Environmental Management for staff assistance in permit processing and on the Coastal Resources Center at the URI Graduate School of Oceanography for its research and planning activities.

SECTION 120 ALTERATIONS AND ACTIVITIES THAT REQUIRE AN ASSENT FROM THE COASTAL RESOURCES MANAGEMENT COUNCIL120-1 On Coastal Features and Within the Territorial Sea

A Council Assent is required for all alterations and activities listed in Table 1 proposed for tidal waters within the territorial sea

Water Use Categories/Shoreline Features<sup>2</sup>

| Alterations and Activities   | Type 1 Conserv. | Type 2 Low Intens. | Type 3 High Rev. | Type 4 Multipurpose | Type 5 Heavy Indus. | Type 6 Ports | Und. Barrier Beaches | Dev. Barrier Beaches | Coastal Wetlands | Coastal Cliffs/Dunks | Rocky Shores | Coastal Beaches | Manmade Shoreline |
|--|-----------------|--------------------|------------------|---------------------|---------------------|--------------|----------------------|----------------------|------------------|----------------------|--------------|-----------------|-------------------|
| Filling, Removal, and Grading of Shoreline Features  | --              | --                 | --               | --                  | --                  | --           | P                    | A                    | B                | A                    | A            | A               | A                 |
| Construction of Residential Buildings and Associated Structures <sup>1</sup>                 | --              | --                 | --               | --                  | --                  | --           | P                    | A                    | P                | A                    | P            | P               | A                 |
| Construction of Recreational Boating Facilities  |                 |                    |                  |                     |                     |              |                      |                      |                  |                      |              |                 |                   |
| Marinas  | P               | P                  | B                | B                   | B                   | B            | P                    | B                    | P                | B                    | B            | B               | B                 |
| Launching Ramps <sup>1</sup>   | P               | A                  | A                | A                   | A                   | A            | P                    | A                    | B                | A                    | A            | A               | A                 |
| Residential Docks <sup>1</sup> , Piers <sup>1</sup> , and Floats                             | P               | A                  | A                | A                   | A                   | A            | P                    | A                    | B                | A                    | A            | A               | A                 |
| Mooring of Houseboats <sup>1</sup>   | P               | P                  | A                | A                   | A                   | A            | --                   | --                   | --               | --                   | --           | --              | --                |
| Mooring of Floating Businesses   | P               | P                  | B                | B                   | B                   | B            | --                   | --                   | --               | --                   | --           | --              | --                |
| Sewage Treatment and Disposal  |                 |                    |                  |                     |                     |              |                      |                      |                  |                      |              |                 |                   |
| Municipal Sewage Treatment Facilities  | --              | --                 | --               | --                  | --                  | --           | P                    | P                    | P                | P                    | P            | P               | B                 |
| ISDS <sup>1</sup>  | --              | --                 | --               | --                  | --                  | --           | P                    | A                    | P                | P                    | P            | P               | A                 |
| Point Discharges - Runoff <sup>1</sup>   | B               | A                  | A                | A                   | A                   | A            | P                    | A                    | P                | B                    | A            | A               | A                 |
| Point Discharges - Other   | P               | B                  | B                | B                   | B                   | B            | P                    | B                    | P                | P                    | B            | B               |                   |
| Non-structural Shoreline Protection  | A               | A                  | A                | A                   | A                   | A            | A                    | A                    | A                | A                    | A            | A               | A                 |
| Construction of Structural Shoreline Protection Facilities                                   | P               | B                  | B                | B                   | B                   | B            | P                    | P                    | B                | B                    | B            | B               | B                 |
| Industrial Structures and Operations; Commercial Structures and Public Recreation Structures | P               | P                  | B                | B                   | B                   | B            | P                    | B                    | P                | B                    | P            | P               | B                 |
| Dredging - Improvement   | P               | P                  | B                | B                   | B                   | B            | --                   | --                   | P                | --                   | --           | --              | --                |
| Dredging-Maintenance   | P               | B                  | B                | B                   | B                   | B            | --                   | --                   | P                | --                   | --           | --              | --                |
| Dredged Material Disposal  |                 |                    |                  |                     |                     |              |                      |                      |                  |                      |              |                 |                   |
| Open Water   | P               | P                  | P                | P                   | P                   | P            | --                   | --                   | --               | --                   | --           | --              | --                |
| Upland Disposal  | --              | --                 | --               | --                  | --                  | --           | B                    | B                    | P                | P                    | B            | B               | B                 |
| Beach Nourishment  | --              | --                 | --               | --                  | --                  | --           | B                    | B                    | --               | --                   | --           | B               | --                |
| Filling In Tidal Waters  | P               | P                  | B                | B                   | B                   | B            | --                   | --                   | --               | --                   | --           | --              | --                |
| Aquaculture  | B               | B                  | B                | B                   | B                   | B            | --                   | --                   | --               | --                   | --           | --              | --                |
| Mosquito Control Ditching  | --              | --                 | --               | --                  | --                  | --           | --                   | --                   | A                | --                   | --           | --              | --                |
| Construction of Public Roads, Bridges, Parking Lots, Railroad Lines, Airports                | P               | P                  | B                | B                   | B                   | B            | P                    | B                    | P                | B                    | B            | B               | B                 |
| Vessel to Vessel Petroleum Transfer  | P               | P                  | P                | B                   | P                   | P            | --                   | --                   | --               | --                   | --           | --              | --                |

Note: This Table is only a guide; please refer to appropriate Sections in Parts II and III for details.

<sup>1</sup>Category A applications that are put out to public notice.

<sup>2</sup>Does not include the contiguous zone.

A = Category A assent required

B = Category B assent required

P = prohibited

TABLE 1

and on shoreline features and areas directly associated and contiguous to those features. A Council Assent is also required for any other activity or alteration not listed in Table 1 but which (a) has a reasonable probability of conflicting with the Council's goals, its management plans or programs and/or (b) has the potential to damage the environment of the coastal region.

Shoreline features are defined in Part II of this document. Directly associated and contiguous areas extend inland not less than 200 feet from the most inland border of any shoreline feature.

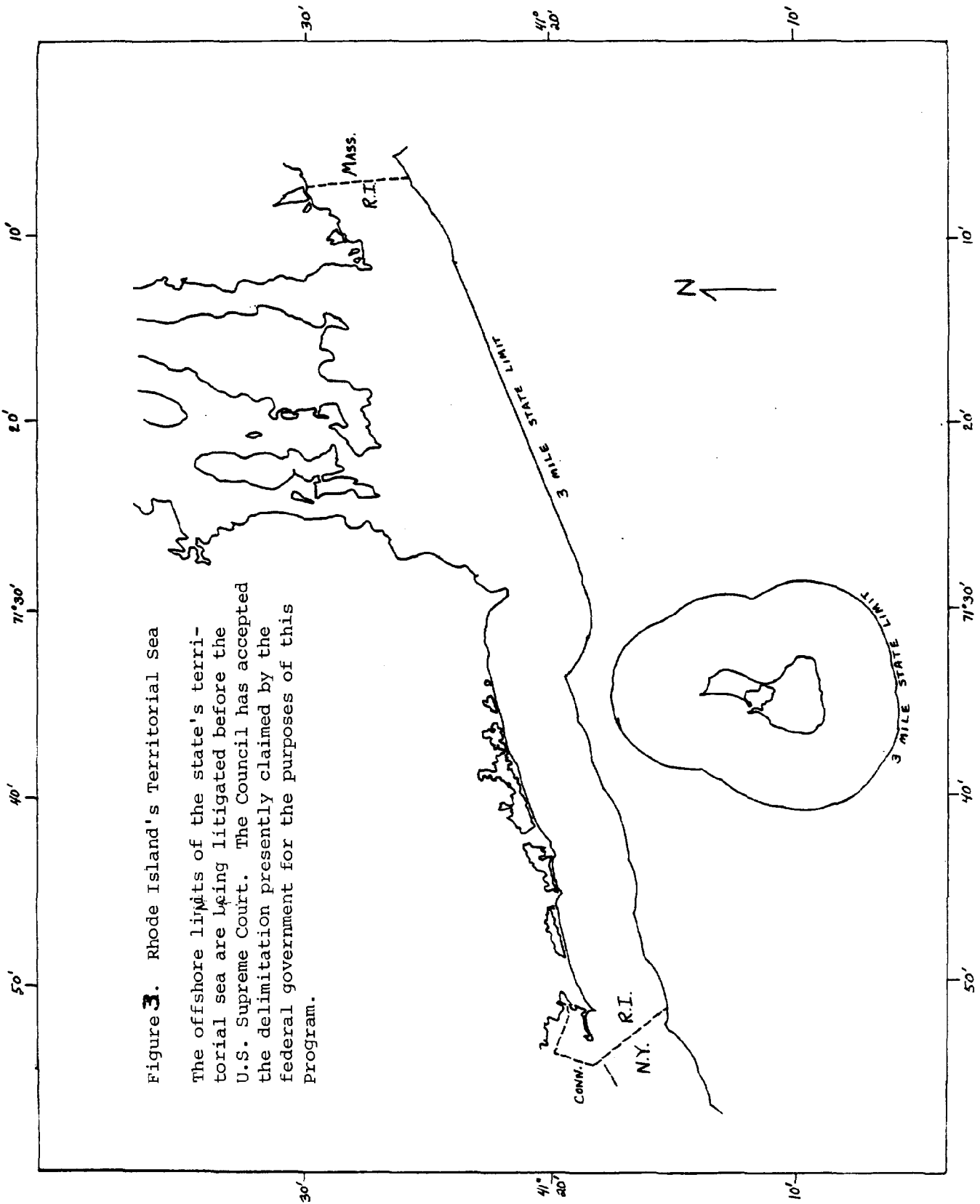
The seaward boundary of the Rhode Island territorial sea is shown in Figure 13. The landward boundary is the mean high water mark along the Rhode Island coast. Coastal ponds associated with barrier beaches, some of which are non-tidal physiographic features, are all considered tidal waters for the purposes of these regulations.

#### 120-2 Inland of Coastal Features and Contiguous Areas

The Council reserves the right to review the following categories of proposed alterations and activities which are to be undertaken inland of shoreline features and their contiguous areas:

- a. power generating plants
- b. petroleum storage facilities
- c. chemical or petroleum processing
- d. minerals extraction
- e. sewage treatment and disposal
- f. solid waste disposal facilities
- g. desalination plants

Where on the basis of a review it is found that the proposal has a reasonable probability of conflict with adopted resource management plans or



**Figure 3.** Rhode Island's Territorial Sea

The offshore limits of the state's territorial sea are being litigated before the U.S. Supreme Court. The Council has accepted the delimitation presently claimed by the federal government for the purposes of this program.

programs and/or has the potential to damage coastal ecological systems the Council shall require that an Assent be obtained.

#### SECTION 130 APPLICATIONS FOR COUNCIL ASSENTS

##### 130-1 Category A Applications

The activities and alterations listed as A in Table 1 include routine matters and categories of construction and maintenance work that do not require review by the full Council if the following criteria are all met:

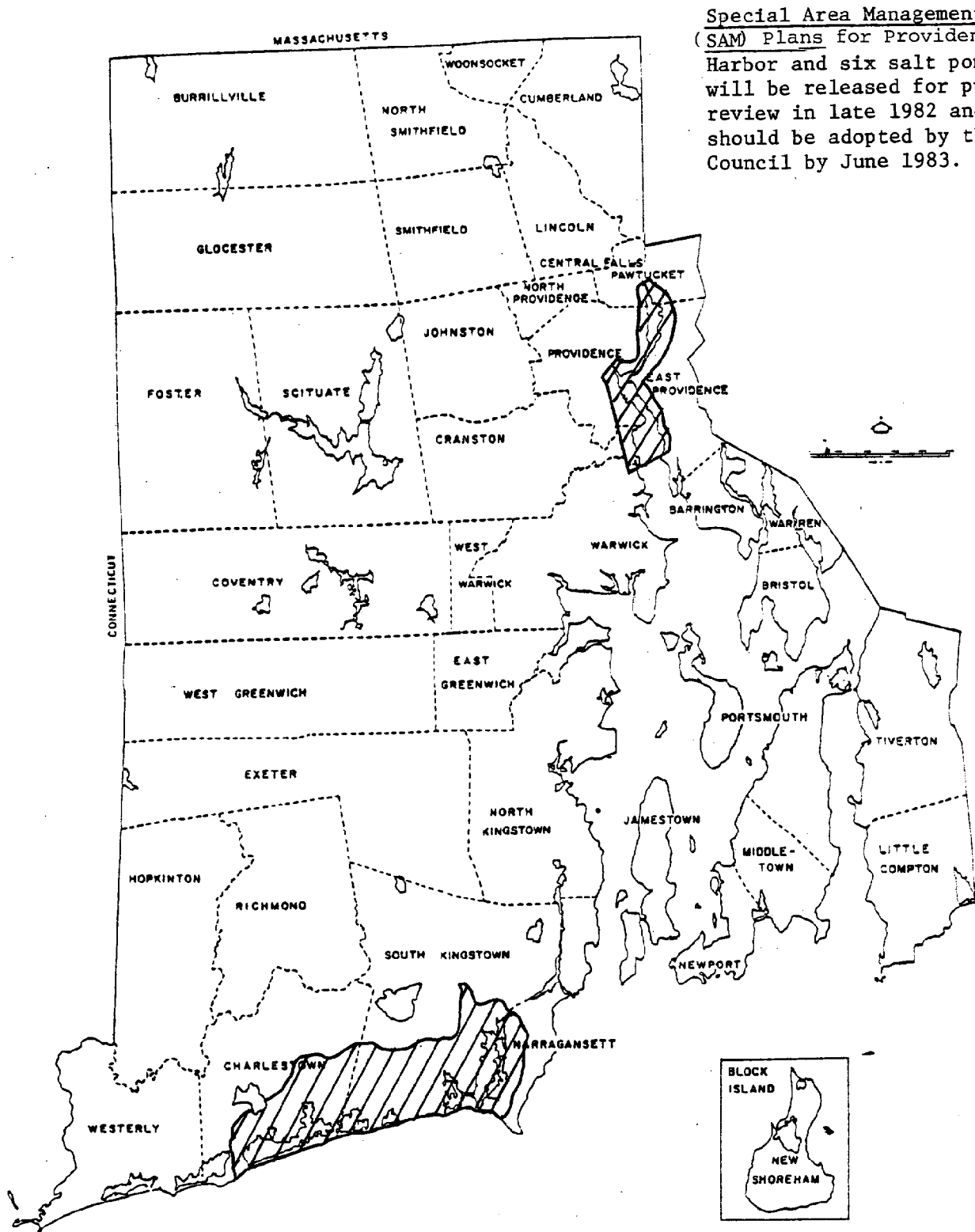
- a) The activity or alteration is proposed in an area not subject to Coastal Council Special Area Management Plans (Figure 2); in SAM Plan areas, permissible uses and Assent categories may differ from these shown in Table 1;
- b) All prerequisites and standards as listed in applicable sections of Part III of this document are met;
- c) Substantive objections are not raised by abutters or other interested parties.

If above criteria a, b, and c are all met and verified by CRMC staff, an Assent for the proposed activity or alteration will be issued. If one or more of the three criteria are not met the application shall be considered a category B application and will be reviewed by the full Council.

##### 130-2 Substantive Objections are defined by one or more of the following:

- 1. Threat of direct loss of property, property values, or other tangible assets of the objector(s).
- 2. Direct evidence that the proposed alteration or activity does not meet all of the prerequisites, goals, or standards as listed in applicable sections of Part III.

Figure 2



3. Evidence is presented which demonstrates that there is potential for significant impacts beyond those commonly produced by activities or alterations of the kind in question on one or more of the following descriptors of the coastal environment.

- circulation and/or flushing patterns
- sediment deposition and erosion
- biological communities, including vegetation, shellfish and finfish resources and wildlife habitat
- scenic and/or recreation values
- water quality
- public access to and along the shore
- shoreline erosion and flood hazards
- runoff to tidal waters

#### 130-3 Category B Applications

Applicants for activities and alterations listed as B in Table 1, in addition to adhering to the applicable prerequisites, policies, and standards are required to address in writing all Burdens of Evidence as listed in the applicable sections of Part III of this document. Project plans must be prepared and stamped by a registered professional engineer, architect, or surveyor, as appropriate, for most Category B alterations as described in applicable sections of Part III, or at the specific request of the Council.

130-4 Formal notice will be provided to all interested parties once forms for all Category B applications and selected Category A applications (see Table 1) have been filed with the Council. A public hearing will be scheduled if there are one or more substantive objections to the project.



## SECTION 140 COUNCIL DECISIONS

140-1 A Category B Assent may be issued if the Council finds by a fair preponderance of evidence that the proposed alteration conforms with applicable goals, policies, prerequisites and standards of this Program.

140-2 Applicants desiring relief from a standard or prerequisite may have granted a Category B Assent only if the following three criteria are met:

1. The proposed alteration conforms with applicable goals (Part II);
2. the proposed alteration will not result in significant adverse environmental impacts or use conflicts; and
3. due to conditions at the site in question a literal interpretation of the standard or prerequisite will cause the applicant to suffer an undue hardship.

## SECTION 150 SPECIAL EXCEPTIONS

150-1 Special exceptions may be granted to prohibited activities to permit alterations and activities that do not conform with the Council's goals for the areas affected only when the following criteria are met:

1. That the applicant has demonstrated benefits to the public welfare that justify deviation from the Program; and
2. that all reasonable steps shall be taken to minimize environmental impacts and/or use conflicts.

150-2 Special exceptions may be granted after all interested parties have been notified and a public hearing has been held. The Council shall make public the findings and conclusions upon which a decision to issue a Special Exception are based.

## SECTION 160 SETBACKS AND UNDISTURBED BUFFER ZONES

160-1 The setbacks listed in Table 2 shall be maintained in areas directly contiguous to coastal features. The setbacks apply to the following categories of activities and alterations:

- a) filling, removal, or grading of shoreline features (Section 310-1)
- b) residential buildings (Section 310-2)
- c) structures associated with residential building (Section 310-2)

that do not provide access to the shore or tidal or salt pond waters (such as sheds, garages, and swimming pools).

- d) individual sewage disposal systems (Section 310-5)
- e) transportation facilities (Section 310-13)

160-2 Applicants for alterations and activities who cannot meet minimum setback standards shall apply to the Council for ~~a~~ relief (Section 140-2)

TABLE 2. Setbacks—Minimum Distances From Mean High Water

|           |   |
|-----------|---|
| 25 feet:  | adjacent to coastal features abutting Type 3 and 5 waters.          |
| 50 feet:  | adjacent to coastal features abutting Type 1, 2 and 4 waters.       |
| 100 feet: | adjacent to unconsolidated bluffs and banks in Type 1 and 2 waters. |

160-3 A buffer<sup>zone</sup> of undisturbed soils and vegetation is required by the Council between tidal waters and many structures and activities on the shoreline (see Part III). The size and characteristics of buffer zones are negotiated by Council staff and applicants following the guidelines listed in Section 160-4. Buffer zones shall be stipulated on Council Assents and shall be maintained.



b) Pollution of Water Bodies

1. Vegetation along the perimeter of water bodies, particularly if it includes trees and shrubs, is effective in trapping pollutants carried by runoff waters and absorbing nutrients from groundwater; this is particularly important in areas abutting confined water bodies such as salt ponds and river estuaries that are threatened by an overabundance of nutrients and contaminated runoff waters.

2. Fertilizers should not be applied within buffer zones except where necessary to establish vegetation in eroding areas.

c) Protection of Flora and Fauna

1. Buffer zones protect the habitat for the wildlife that are an important resource in many coastal areas; these zones help preserve the nesting and feeding habitat that are particularly important on shorelines abutting coastal wetlands, and Type 1 and 2 waters. Current scientific evidence suggests that a 50-foot wide buffer is the minimum required to preserve habitat for many wildlife species.

2. Buffer zones are essential to the protection of rare or unusual occurrences of wildlife and unusual or otherwise significant plant species, stands, or communities. The maintenance of species diversity or community type diversity and transition zones (ecotones) between communities is important, as is the protection of species of particular significance as wildlife food.

d) Preservation and Enhancement of Scenic Qualities

1. Buffers should preserve the natural appearance of the shoreline that gives Narragansett Bay and the south shore salt ponds much of their beauty; where possible vegetation should screen buildings in areas of rural character from vantage points on the water and neighboring shore.

2. Natural buffer zones should be used where possible to blend in those facilities that are water dependent, such as stairways, and make them less obtrusive.

3. Vegetated buffer strips greatly enhance the appearance of the commercial areas adjacent to Type 5 and 6 waters and in some cases need not interfere with the activities that take place on the site.

#### Comments

*The Council is soliciting feedback on this section; there is considerable debate over the proper distances for setbacks and the specific locations to which they are applied.*

#### SECTION 170 MAINTENANCE OF EXISTING STRUCTURES

170-1 Persons proposing to maintain structures destroyed 50 percent or more by storm waves, flooding, or erosion, shall be required to obtain a new Council Assent.

170-2 Persons proposing to maintain dredged channels (Section 310-9) and mosquito control ditches in coastal wetlands (Section 310-13) are in all cases required to obtain a new Council Assent.

170-3 Maintenance of structures other than dredged channels for which a Council Assent has been issued is permitted without further Council action if the following standards are all met:

a) there will be no alteration to the purpose, design, or size of the approved structure;

b) all applicable standards for the construction and operation of the permitted facility and any stipulations that condition the Council's Assent are upheld;

c) persons proposing to maintain structures in the categories listed below that require the use of heavy machinery, such as pile drivers, on coastal features or in tidal or coastal waters shall inform the Council in writing at least ten days before undertaking such maintenance:

Recreational Boating Facilities (Section 310-3)

Shoreline Protection Facilities (Section 310-6)

Public Roadways, Bridges, Parking Lots, Railroad Lines

and Airports (Section 310-14)

<sup>178-4</sup>  
~~180-4~~ Maintenance of structures under Council jurisdiction that predate the Council and for which an Assent does not exist shall inform the Council in writing of the maintenance proposed. The Council's Executive Director shall determine what standards apply and whether a Council Assent is required.

#### SECTION ~~190~~ FEES

The Council may license the use of coastal resources held in trust by the state for all its citizens and impose fees for the private use of such resources. In 1980 annual fees were set for bottom and/or water column leases for aquacultural activities in tidal waters (see Section 310-11) as follows:

\$150 for the first acre or portion thereof;

\$100 for each additional acre.

#### Comments

*The revised Program will establish fees for the filling of tidal waters. The Council is considering whether such fees should be in the form of an annual lease where the state retains ownership of the property, or a one-time charge that gives the user full ownership of the made-land. Fees would be based either on the assessed value of the property or a uniform, per-unit-area charge.*

*In order to encourage small scale aquaculturists to preempt areas smaller than one acre, an annual fee of \$75 for half an acre or less is being considered.*

*The Council is also considering charging annual lease fees for water areas preempted by the long-term storage of large vessels such as liquified natural gas (LNG) tankers and oil super tankers.*

*Comments on these issues are appreciated.*

#### SECTION 190 PRESERVATION OF ARCHAEOLOGICAL AND HISTORICAL SITES

190-1 Preservation of areas and sites of historical and archeological significance is a high priority use of the coastal region. The Council shall notify appropriate federal, state and local historic preservation agencies of proposals before it or subject to Council review where there exists any reasonable probability of these proposed actions affecting the physical preservation, aesthetic quality or accessibility of archaeological or historic sites, buildings or districts on or eligible for the National or State Registries of Historic places. The Council will consider the comments of all federal, state and local historic preservation agencies prior to any action under this section.

190-2 The Council shall require modification or shall prohibit proposed contiguous uses under its jurisdiction where it finds a reasonable probability of adverse structural impacts on designated archeological or historic sites, buildings or districts. It shall consider modification of proposals likely to affect the aesthetic quality or accessibility of such sites, buildings or districts.

- Type 1 Conservation
- Type 2 Low Intensity
- Type 3 Recreation-Boating
- Type 4 Multipurpose
- Type 5 Industrial/Channels
- Type 6 Ports

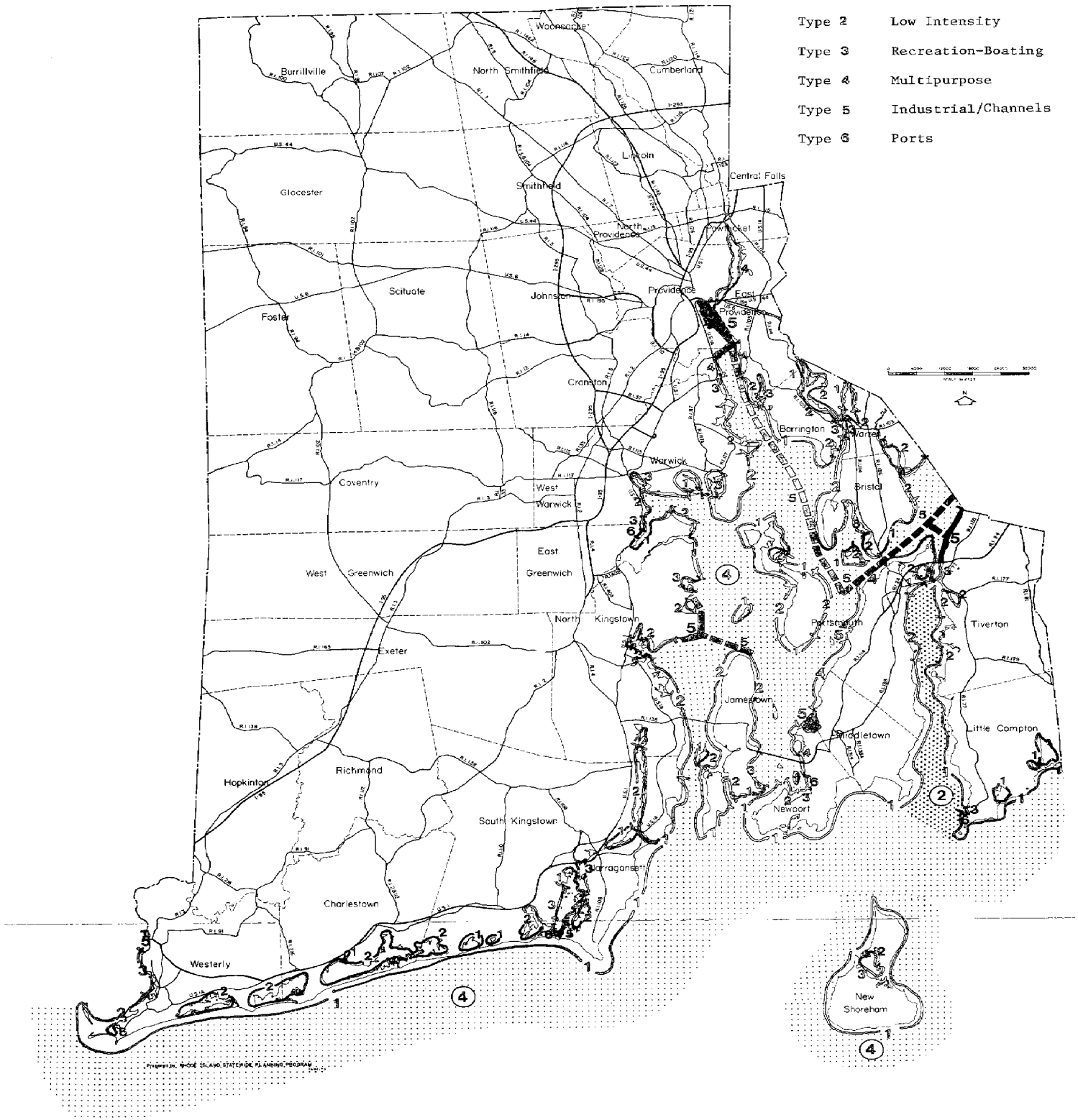


Figure 1. Use Categories for Tidal and Coastal Pond Waters



## PART TWO

## Areas Under Council Jurisdiction

## SECTION 210

Tidal and Coastal Pond Waters

Definition: All water areas within the boundaries of the State of Rhode Island territorial sea that are directly affected by diurnal tides, and brackish or freshwater bodies associated with coastal features; these areas are assigned to one of six categories (Figure /).

Findings:

1. Rhode Islanders have a deep commitment to our coastal environment. Their concern for Narragansett Bay and the quality of the south shore coastal ponds is voiced in numerous ways; ~~in recent years~~ Rhode Islanders have supported the passage of landmark legislation in 1971 that created the Coastal Resources Management Council, <sup>from a coalition</sup> many of the efforts of such environmental organizations as Save the Bay and the Audubon Society, and <sup>the</sup> ~~passage of~~ the largest bond issue in the state's history in order to relieve chronic pollution in the upper Bay caused by the antiquated Providence municipal sewage treatment plant. The concerns of the public have in large measure been responsible for the decisions ~~not~~ to build ~~an~~ oil refineries in Jamestown and Tiverton, and to halt the destruction of salt marshes and the indiscriminate disposal of dredge spoils. Narragansett Bay is accepted as the state's greatest resource and our coastal resources are the focus not only of tourism advertisements but of efforts to attract new businesses into the state. Rhode Island strives to be recognized as a good place to work and raise a family and these attributes are inextricably bound to a varied and beautiful shoreline where water quality, and no less important, visual quality,

are excellent and well protected. The qualities that make Rhode Island's coast beautiful and an unparalleled recreational resource are fully as important, as the readily quantifiable commercial and industrial water dependent activities. The designation of large stretches of waters or coastline for conservation and low intensity use in this Program recognize these facts and will help maintain a high quality coastal environment for future generations of Rhode Islanders.

2. The six categories of waters designated in this Program are directly linked to the characteristics of the shoreline since the characteristics and activities on the adjacent mainland are the primary determinant of the uses and qualities of any specific water site. The water categories described in this section are complimented by policies for shoreline types (Section 220) and the two must be combined to identify the program's position for a specific area.

3. Rhode Island's shoreline and waters are a rich diversity of visually distinct areas each of which support a unique mixture of activities. This diversity must be recognized and maintained. The post war decades have brought an explosion in the development of formerly rural coastal lands. By the early 1980's most of the readily developable waterfront property had been subdivided and the remaining available parcels are within existing developments or they present natural /constraints to the developer such as poorly draining soils. Despite the surge of building along the lower Bay and south shore, the coastline has retained much of its beauty. Water quality is with few exceptions high and the appearance of long stretches of the coast from the water and vantage points along the shore provides a sense of unaltered shore, open land, and structures that are not overly obtrusive. This quality, however, could be lost over the next three decades as the remaining farmland and estates, now

worth huge sums, come on the market and are sold off as house lots, and if a growing resident population is permitted to make individually minor alterations to the shoreline without consideration of the public good, the appropriateness of such activities and their cumulative impact on the quality of the coastal environment.

4. Rhode Island has a rich history of maritime commerce and industry. In this century, however, the once booming urban waterfronts of the upper Bay have stagnated and declined despite major infusions of public funds to deepen the access channel to Providence to 40 feet and build expensive new terminal facilities. During the post war decades, oil imports have dominated waterborne commerce but this sector has declined sharply since the mid 1970's. In 1973 the U.S. Navy announced a major pullout from its extensive facilities in the lower Bay and by the late 1970's extensive port facilities at Quonset, Davisville, Melville and Coddington Cove had been turned over to the state. Rhode Island now has a large inventory of unutilized or underutilized port facilities.

5. As shipping has declined recreational boating has increased. Facilities for the in-water storage of boats are in short supply but expansion of marinas into new areas could only be accomplished, with very few exceptions, if remaining salt marshes and other important natural features were sacrificed. Since this is unacceptable, the emphasis must be on the more efficient use of existing facilities, recycling of underutilized but already disturbed sites and improvements to public launching facilities.

#### 210.1 **Type 1 Conservation Areas**

Definition: Included in this category are: (a) water areas that are within the boundaries of designated wildlife refuges and conservation areas, (b) water areas that have retained undisturbed natural habitat or maintain scenic values of

unique or unusual significance, and/or (c) water areas that are particularly unsuitable for structures due to their exposure to severe wave action, flooding and erosion.

Findings:

1. The coastline that fronts directly on Long Island and Block Island Sounds includes the most dynamic and natural scenic features in Rhode Island. These include the south shore barrier beaches, the erosion-prone clay bluffs of Block Island, and Newport's rocky promontories. In order to adequately preserve these shorelines and to avoid inappropriate activities in these areas, structural alterations in the tidal waters directly adjacent to these waters are severely restricted or prohibited.

2. Water areas such as Brigg's Marsh in Little Compton, Sachem Pond on Block Island, or Hundred Acre Cove in Barrington have exceptional values as wildlife nesting and feeding habitat. Rare and unique assemblages of plants *and* *many organisms* are sometimes found in these undisturbed waters. Many, but not all water areas of well recognized significance to wildlife are within established sanctuaries or management areas.

3. Opportunities for scientific research and education have been enhanced by the designation of a National Estuarine Sanctuary in the Upper Bay, one of some 20 similar designations nationwide. The Sanctuary includes Bay waters extending to the 18-foot depth contour around Patience Island, the northern half of Prudence Island and Hope Island.

4. Valuable conservation areas are not all in clean, rural environments. For example, Watchemoket Cove in the heart of the industrial waterfront of East Providence is an important waterfowl resting area, particularly during the winter months when large numbers of canvasbacks, scaup, widgeon and black ducks are present.

5. Several stretches of shoreline throughout the state have survived the rapid proliferation of residential development during recent decades in pristine condition. Examples include the Potowomut River, the Palmer River in Barrington and Warren and the Mt. Hope Cliffs in Bristol. It is important that as much of this land as practicable be preserved from alteration to assure that Rhode Island's rich diversity of shoreline types and high scenic values are preserved.

#### Goal

The Council's goal is to preserve and protect Type 1 waters from activities and uses that detract from their values as conservation areas.

#### Policies

1. Activities and alterations including dredging, dredge material disposal, recreational boating facilities, structural shoreline protection and filling are all prohibited in Type 1 waters unless the primary purpose of the alteration or activity is to preserve or enhance the site as a conservation area and/or a natural buffer against storms. Mooring of houseboats and floating businesses and industrial or commercial structures or operations (excluding fishing and aquaculture) are prohibited in Type 1 waters.

2. Buffer strips on shorelands abutting Type 1 waters should recognize the high scenic and/or wildlife habitat values of these areas; buffers will frequently be wider than along shorelines in other categories.

3. Applicants for Council Assents for alterations adjacent to Type 1 waters are required to give full consideration to the impact of the proposed activity on the scenic character of the area.

4. Point sources of runoff waters shall only be permitted to discharge into Type 1 waters where it is demonstrated that no reasonable alternative exists and that no significant adverse impact to the receiving waters will result.

0.2

**Type 2 Low Intensity Use Areas**

Definition: This category includes waters in areas with high scenic values that support low intensity recreational and residential uses. These waters include seasonal mooring areas where good water quality and fish and wildlife habitat are maintained.

Findings:

1. Some 6000 acres of Rhode Island's tidal waters are contained within a string of coastal lagoons, known locally as salt ponds, along the south shore between Watch Hill and Point Judith. Nearly all have retained their scenic and natural characteristics while accommodating some docks, small dredged channels, and <sup>small-scale</sup> shoreline protection structures. Each coastal pond is an individually distinct ecosystem and a unique feature of great scenic value.

2. The Sakonnet River, that separates Aquidneck Island from Tiverton and Little Compton has use characteristics similar to those of the coastal ponds. The Sakonnet's waters are of high quality except for small areas adjacent to the few developed areas, and its shorelands are varied and picturesque, displaying large salt marshes, rocky cliffs, open agricultural fields, and wooded shoreline. The upper half of the Sakonnet River is a productive quahog ground and is fished commercially. Conchs are fished commercially throughout the river.

3. Several small riverine estuaries and portions of the Bay support low intensity uses and should also be maintained in their present condition. These include the Kickamuit River in Warren, Nanaquacket Pond in Tiverton, and the shoreline of the northern half of Jamestown Island. All of these areas have retained their natural characteristics while accommodating some

residential use. Existing development are, with few exceptions, well buffered visually from vantage points on the water.

#### Goal

The Council's goal is to maintain and where possible restore the high scenic values, water quality, and natural habitat values of these areas and to provide for low intensity uses that will not detract from these values.

#### Policies

1. New or deepened dredged channels and basins (termed improvement dredging by the Army Corps of Engineers), new marinas, the mooring of houseboats and floating businesses, industrial and commercial structures and operations (excluding fishing and aquaculture) and filling are all prohibited in Type 2 waters. In keeping with the character of these areas, residential boating facilities, public launching ramps and, where necessary, small scale structural shoreline protection facilities may be permitted subject to the standards in Section III.

2. Applicants for Council Assents for alterations on shorelands abutting Type 2 waters are required to give full consideration to the impact of the proposed activity on the scenic character of the area.

#### 210.3 Type 3 High Intensity Boating

Definition: This category includes intensely utilized water areas where recreational boating activities dominate; the adjacent shorelines are developed as marinas, boatyards and associated water-enhanced businesses.

#### Findings:

1. Marinas are the principal means by which the boating public gains access to tidal waters; they therefore provide an important public service. Only beach going involves more Rhode Islanders in a recreation activity that makes direct use of tidal waters. In 1978 some 65 percent of all slips and moorings were within marinas and yacht clubs and nearly all of these are within Type 3 waters.

2. Marinas face a number of difficulties. The boating season in Rhode Island is confined to six months with most of the activity concentrated in June, July and August; many of the smaller operations have difficulties in generating income during the remainder of the year and are economically marginal businesses. Nearly all the existing marinas were built when the value of waterfront property was far lower than it is today and the pressures to convert marginal operations to more profitable uses is mounting. In many locations, marina operators are plagued with siltation problems and find it difficult to find acceptable sites for their dredged materials.

3. Areas suitable for marinas are severely limited and the steady growth in the number of recreational boats is increasing the competition for available marina facilities. Unfortunately, sheltered waters suitable for marinas are limited and most of the remaining potential sites contain salt marshes and could only be developed at great environmental, as well as high economic costs. The solution to growing demand is therefore to use the available facilities more efficiently and to recycle already altered sites in the upper Bay and on excessed Navy holdings (such as Allens Harbor in North Kingstown and along the Aquidneck west shore). Dredging problems can be best solved if the marina operators in a cove or harbor join together to finance the dredging and find a common local solution to the disposal problem. Techniques such as marsh building, beach nourishment or transporting materials to a more distant location become technically and economically feasible when a sufficiently large volume of material is to be moved and a united effort to solve the problem is organized.

4. The growth in the size of the recreation fleet, the limited opportunities and <sup>the increasing</sup> expense of in-water storage are causing rapid expansion in



the number of trailerable boats that are launched each time they are used and stored on their owner's property. This places a heavy demand on public launching sites many of which are in poor condition and provide limited parking for cars and trailers.

#### Goal

The Council's goal is to retain and enhance Type 3 areas for high intensity recreational boating. Other activities such as commercial fishing and aquaculture may be permitted if they do not significantly detract from the recreational values of the area.

#### Policies

1. The Council encourages marinas to seek innovative solutions to increased demands for moorings, dockage, and storage space and has made it possible for marina operators to alter the layout of their facilities and increase their capacity up to 25 percent without applying for a new Assent (see Section 310.3)

2. The construction of recreational boating facilities, associated dredging, and modifications to the shoreline are permissible in Type 3 waters; however, these alterations must not jeopardize a visually attractive setting and adequate water quality. The potential impacts of all such alterations on neighboring water areas not classified as Type 3 must be evaluated.

3. Undisturbed buffer zones ~~may be~~ in some cases/~~may be~~ appropriate along the shores of Type 3 areas. In these areas buffers will be necessary to protect significant salt marshes and other important material features that must be preserved and may be present in these areas.

#### 210.4 **Type 4 Multipurpose Waters**

Definition: This category includes (a) large expanses of open water in Narragansett Bay and the Sounds that support a variety of commercial and recreational activities while maintaining good value as fish and wildlife

habitat and (b) open waters adjacent to shorelines that could support water dependent commercial, industrial and/or high intensity recreational activities.

Findings:

1 a) The open waters of Narragansett Bay and the Sounds are used for a number of purposes including commercial and sport fishing, boating, commercial shipping, aquaculture, and scientific research. The dominant activities are commercial fishing, recreational boating and recreational fishing.

b) The principal commercial fishery in the Bay is a handtong and bullrake fishery for quahogs. In 19<sup>79</sup> the Rhode Island quahog fishery, which is concentrated in the central third of the Bay, produced some 2.2 million lbs of meats, with a dockside value of \$ 6.3 million and provided full time employment to approximately 1300 fishermen and part time employment to an additional 2300.

The Bay also supports a small trawler fishery and seasonal fisheries for menhaden, lobster, and conchs. The boundaries of principal grounds for the quahog trawler and lobster fisheries are shown in a general manner on maps in "An Aquaculture Management Plan for Rhode Island Coastal Waters" prepared by W. J. Lapin of the R.I. Department of Environmental Management in 1981. A significant portion of the Bay's quahog beds are in the upper Bay areas permanently closed to shellfishing, and a large proportion of the currently most productive grounds are closed for much of the year. Water pollution is thus a major threat to the Bay's shellfisheries.

c) In the early years of this century the Bay supported a lucrative oyster culture industry. In 1910 some 20,000 acres of Bay bottom was leased to private growers. Conflicts between oyster growers and commercial shellfishermen were intense. The oyster industry began a rapid decline in the 1930's and ended in 1957. In the late 1970's, a new form of aquaculture

using intensive off-bottom culture methods began to be proposed for several locations. By mid 1982 three leases had been granted by the Council in the Bay and in the coastal ponds. Bay fishermen oppose the re-establishment of aquaculture in the Bay fearing ~~that~~ encroachment on their grounds, impacts on shellfish prices and possibly the introduction of diseases or pests. Aquaculturists argue that their intensive methods need not compete with traditional fisheries for prime grounds and that aquaculture could provide the state with a new industry providing jobs and ~~reserve~~<sup>revenue</sup> from a renewable native resource.

d) The other major user group of Type 4 waters are boaters and sport fishermen. The majority of the state's estimated 33,000 (1979) recreational boats are used on the Bay. Sport fishermen take several thousand pounds of flounder, bluefish and striped bass each year. The scenic qualities of the Bay, good water quality and control over pre-empt<sup>ive</sup> uses are essential to all recreational users.

e) A major concern to all users of Type 4 waters is good water quality. The major source of all principal pollutants to the Bay, including coliforms, nutrients, petroleum hydrocarbons, metals and exotic organic chemicals are the urban and industrial centers that discharge into the Providence River. Strong down-Bay gradients are seen in both the sediments and water column for all these pollutants. The long term combined impacts of pollutants on the Bay ecosystem are not well understood. There is evidence, however, that pollutants that enter the Providence River may be impacting the Bay as far south as Hope Island.

#### Goal

The Council's goal is to maintain a balance among the many diverse activities that must coexist in Type 4 waters; the changing characteristics

of traditional activities and the development of new water dependent uses, shall where possible be accommodated in keeping with the principal that the Council shall work to preserve and restore ecological systems.

#### Policies

1. The Council recognizes that large portions of Type 4 waters include important fishing grounds and fishery resource habitats and shall protect such areas against alterations and activities that threaten the long term vitality of Rhode Island fisheries. Aquaculture leases shall not be issued for bottom culture in prime quahogging grounds and leases for off bottom culture will only be considered if *the Council is satisfied* there will be no significant impacts on the traditional fishery. Aquaculture leases for off bottom culture will not be issued within prime feeding grounds.

0.3

#### Type 5 Industrial Waterfronts and Commercial Navigation Channels

Definition: These water areas are extensively altered from their natural conditions in order to accommodate commercial and industrial water dependent and water enhanced activities.

#### Findings:

1. Maritime Commerce played an important role early in Rhode Island's colonial history.

The United States Navy has been the single largest developer of coastal land, and the termination of operations at Quonset Point and drastic reductions at Davisville, Melville and Coddington Cove left the state with a surplus of port facilities/ Commercial fishing, shipping, boat building and other enterprises which need direct access to tidal waters/ to play an important role in Rhode Island's economy. Dredged channels and berths have been essential ingredients in keeping these facilities competitive with other New England and Atlantic Coast ports.

Today Providence Harbor is the focal point of waterborne commerce. In fiscal 1981 5.3 million tons of petroleum, steel, cement, automobiles, lumber, scrap metal and other non-petroleum commodities were received or shipped. Tiverton is also a petroleum terminal. Commercial fishing dominates at Galilee. Surplus Navy lands at Coddington Cove and Quonset support shipbuilding, while Davisville is used by the service industry to offshore oil development. In addition to underutilized facilities at Davisville and Melville, the Providence and Worcester Railroad has commenced construction of a large marine terminal on the east side of Providence Harbor opposite the Providence Municipal Wharf.

2. Port facilities are not usually major point dischargers of polluted waters, since most of the activities involve moving materials across a wharf or pier. Runoff from storage areas is the most likely cause for concern in terms of water quality. Since most of the port areas were established early in Rhode Island's history, most are surrounded by urban areas that do in fact discharge large volumes of treated sewage and storm water.

The combination of polluted waters and the need for well maintained berths and dredged channels poses a difficulty for all users of industrial waterfronts. The sediments which accumulate are frequently contaminated with a variety of undesirable materials including oxygen consuming organic matter, petroleum products, and potentially toxic heavy metals. When this is combined with a soft, hard-to-handle sediment found in the upper reaches of estuaries, dredged material disposal becomes a major problem.

#### Goal

The Council's goal is to encourage the growth of economic activity related to port and marine industries in Type 5 waters. The Council will

protect public accessibility and a mix of uses in those areas where it will not interfere with port operations, and where it will enhance the relationship of the surrounding community to its waterfront.

#### Policies

1. The Council recognizes that there is a surplus of port facilities and that it can play a useful role in assisting in the development and implementation of sound comprehensive port planning. The Rhode Island Port Authority is the principal agency charged with statewide port planning and the Council will cooperate with RIPA in this task. The Council, in its Special Area Plan for Providence Harbor, will take an active role in establishing specific port development goals and working to guide physical development and management and overcome difficulties so that Rhode Island ports can be more competitive with other New England and other East Coast facilities.

2. Through its Special Area Plan for Providence Harbor, and other planning initiatives, the Council will identify and designate acceptable disposal solutions and sites adequate to meet the need for dredging and provide the assurances required by industry that channels and depths will remain economically viable, while minimizing environmental effects. The solutions may be more costly than older disposal practices, and may involve innovative technology.

#### 210.6 Type 6 Ports

Definition: These waters are within or adjacent to waterfront areas that support a variety of recreational and commercial activities.

Findings:

1. The ports of Newport, Bristol, East Greenwich and Wickford all support a vibrant mix of commercial and recreational waterfront activities. All have important historic values that must be preserved. Competition for space is intense in all Type 6 waters as commercial fishing vessels, recreational boats and ferrys compete for limited water space and waterfront business of many varieties vie for a good position on the waterfront. The visual qualities of these areas is highly important since all are important centers for tourism.

Goal

The Council's goal is to maintain a balance among diverse port related activities including recreational boating, commercial fishing and water enhanced businesses. The Council will promote the efficient use of space and visually attractive waterfront that retains the high values of these areas to tourism.

## 220 SHORELINE FEATURES

.1 Definition

Shoreline features include landforms contiguous to tidal waters and coastal ponds including coastal beaches and dunes, barrier beaches, coastal wetlands, coastal cliffs and banks, rocky shores, and manmade shorelines.

.2 General Findings

1. A great variety of geologic forms are found where tidal waters meet the land. Where the land is exposed to the forces of the open ocean, as along the south shore, seacliffs, steep cobble beaches and wide sandy beaches predominate. In sheltered waters salt marshes and mud flats are common. The shoreline of Narragansett Bay is composed predominately of narrow beaches of gravel and cobbles that lead to a frequently unvegetated bank of unconsolidated glacial sediments.

2. All shoreline systems are dynamic and change their shape and character in response to storms, currents, human modifications and the gradual rise in sea level. Some ten thousand years ago, during the last glaciation, Rhode Island's ocean shore was several miles seaward of its present position. Sea level has been rising at varying rates ever since causing the shore to gradually retreat inland. The present rate of sea level rise is about one foot each century. A foot of vertical rise, however, accounts for an inland retreat of some 30 feet along shores with a low profile, such as sandy beaches and salt marshes.

3. A principal concern of waterfront property owners is shoreline erosion and flooding. The susceptibility of any length of shoreline to erosion is determined by the type of shoreline (see Table 3) and its exposure to elevated water levels (storm surge) and waves during storms. During major storms and hurricanes a combination of low



TABLE 3  
Shoreline Types and Their Susceptibility to Erosion. A (most susceptible) E (least susceptible)  
(adapted from Boothroyd and Al-Saud, 1978)

| Type                                       | Characteristics   | Example area most susceptible to erosion due to their exposure  |
|--|---|---|
| Beaches (A)                                | unconsolidated sand, gravel or cobbles; usually backed by a bank  |   |
| Barrier Beaches (A)                        | unconsolidated sediments that form a spit parallel to the mainland and separated from it by a marsh or pond; sand dunes are often present                               | <ul style="list-style-type: none"> <li>- all south shore barriers</li> <li>- south side Comlcut Pt. (Warwick)</li> <li>- Barrington Beach (Barrington)</li> <li>- Jenny Pond spit (Prudence Island)</li> <li>- Briggs Marsh barrier (Little Compton)</li> </ul> |
| Glacial Outwash Banks (B)                  | sand and gravel deposited by rivers as glaciers melted 10,000 years ago   | <ul style="list-style-type: none"> <li>- Oakland Beach and Buttonwoods (Warwick)</li> <li>- Occupessatuxet Neck (Warwick)</li> <li>- Coggeshall (Warren)</li> <li>- Island Park (Portsmouth)</li> </ul>   |
| Glacial Till Banks (C)                     | compacted clay, sand, gravel and boulders that have not been sorted by river action   | <ul style="list-style-type: none"> <li>- northeast side of Pt. Judith (Narragansett)</li> <li>- Briggs Pt. (Little Compton)</li> </ul>  |
| Soft Bedrock (D)                           | usually in the form of terraces or scalloped cliffs   | <ul style="list-style-type: none"> <li>- east shore of the Bonnet (Narragansett)</li> <li>- east facing segment of the Newport Cliffs</li> </ul>  |
| Hard Bedrock (E) and Discontinuous Bedrock | hard bedrock is composed of granite and metamorphic rocks; discontinuous bedrock, either hard or soft, outcrops often extend out from the shore and help break up waves | <ul style="list-style-type: none"> <li>- least susceptible to erosion</li> </ul>  |

atmospheric pressure and the force of high winds over a large expanse of open water causes sea level to rise dramatically along the coast, particularly at the northern end of Narragansett Bay. During the 1938 hurricane the storm surge forced water levels 12 ft. above mean high water at Pt. Judith and over 13 feet at Providence. Waves ten feet high and more were measured above the surge level. Such events are not rare; the state has been struck by 71 hurricanes in the past 350 years, 13 of which have caused severe flooding and erosion. In this century, the 1938 hurricane left 311 dead, and nearly 2000 houses destroyed while hurricane Carol killed 15 people and destroyed 3800 houses in 1954.

4. In Rhode Island most shoreline erosion takes place during infrequent severe storms and the rate of erosion is slow in intervening periods. Unfortunately the majority of today's shorefront residents believe that the low rates of erosion of the past three decades are the norm and do not realize that major storms and hurricanes occur periodically and radically reshape many coastlines. Most privately built shoreline protection structures are overbuilt for the low rates of erosion between storms but along exposed shores will not withstand the next "big one."

5. The federal government does not subsidize the building of shoreline protection structures that will benefit only the individual property owner. The federal flood insurance program, however, guarantees subsidized insurance for buildings in flood hazard areas that meet defined construction standards. This program has encouraged building on some highly hazardous barrier beaches. New legislation may remove insurance subsidies in such areas.

## 220-1 COASTAL BEACHES AND DUNES

### .1 Definition

Coastal beaches include gently sloping expanses of unconsolidated, usually unvegetated sediments that are subject to wave action; they extend from low water landward to an upland rise, frequently the foot of a dune, cliff or bank or manmade structure.

Dunes are natural hills, mounds or ridges of unconsolidated sediment landward of a coastal beach that have been formed by the wind and wave overwash. Dunes undisturbed by human activities are usually vegetated with beachgrass and shrubs.

## .2 Findings

1. Beaches are dynamic, flexible features. The character of a beach is determined primarily by the particle size of the sediment, and the amount of wave and current action. Beaches are formed by sediments that are carried by waves and currents from eroding headlands, the deposits of streams and rivers and offshore bars. It is often difficult to establish the source of sediment for an individual beach but shoreline protection facilities can significantly alter the volume supplied by suppressing the source (riprap and bulkheading) or interrupting the flow of currents along the shore (groins and jetties). Beaches commonly alter their shape and size in response to seasonal weather patterns. During rough weather waves wash sand from the beach and deposit it in sand bars close to shore. In calm periods the sand washes back onto the beach to form a broad, flat profile that is usually present in summer months. Longshore currents formed by waves striking the shore at an angle cause sand particles to drift along an exposed shore. Because they are dynamic features and many are important recreational resources, beaches also tend to interrupt the flow of sediments along a beach causing deposition on one side of the structure and erosion on the other.

2. Dunes, like beaches, are dynamic features. While beaches are shaped by the forces of waves, dunes are created and shaped primarily by the wind. As temporary reservoirs of sand, dunes provide sediment to severely eroding beaches and a flexible barrier that protects the lands and salt ponds behind them. The height and stability of dunes is dependent largely on beachgrass which traps and anchors wind blown sand. Although wonderfully resistant to salt air and desiccation, beachgrass is easily killed by trampling. When beachgrass is destroyed the sand is exposed to the wind and erodes rapidly, thus reducing the effectiveness of the dune as a buffer against storms.

### .3 Goal

1. The Council's goals are (a) to preserve and protect for recreation those beaches of sufficient size to provide a recreational resource; (b) to prevent activities that will significantly disrupt longshore and/or onshore-offshore beach processes, thereby creating an erosion or flooding hazard; (c) to protect the scenic values of these features.

### . 4 Policies

1. Construction on beaches and undeveloped dunes is prohibited except where (a) the primary purpose of the project is beach or dune restoration or nourishment.

Comment. The dunes on several developed barrier beaches had houses built on them when the Council first promulgated regulations in 1973. It has not proved feasible to prevent additional houses from being built in comparable positions on these dunes on the few remaining undeveloped lots in these areas. The revised Program will therefore refer to maps that will establish a line on developed dunes seaward of which no construction other than the building of boardwalks will be permitted.

2. Vehicles and pedestrian traffic are prohibited from all dunes except on marked, stabilized trails. Boardwalks are required where public access across dunes is provided.

## 220.2 BARRIER BEACHES

### .1 Definition

Barrier beaches are narrow strips of land made of unconsolidated material usually extending parallel to the coast and separated from the mainland by a coastal pond, tidal waterbody or coastal wetland. In most cases barrier beaches contain dunes or dune fields. The lateral limits of barrier beaches are defined by the area where unconsolidated sand or cobble abut rock, glacial till or other sediments unrelated to deposits made by the forces of the wind and waves. The state's barrier beaches have been mapped and assigned to a developed or undeveloped category (Table 4).

### .2 Findings

1. Rhode Island's south shore coastal ponds and a frequently low-lying mainland are protected from the forces of the open ocean by a chain of low, narrow barrier beaches. They are small because sediment is in short supply. Their importance as buffers against storms, the continuing pressures to build upon them, and a long history of disasters during hurricanes has made the management of barrier beaches a primary concern of the Coastal Resources Management Council. Several barriers that were swept clean of all houses in 1938 and 1954 are again developed and pedestrian and vehicular traffic has slowed the recovery of dunes on many barriers classified as conservation areas.

2. The flexibility of barrier beaches permits them to withstand the severe forces of erosion to which they are exposed. As sea level gradually rises the barriers migrate inland. The migration process

TABLE 4. DEVELOPED AND UNDEVELOPED BARRIER BEACHES

Developed

Atlantic Beach, Westerly  
 Central Beach, Charlestown  
 East Beach (west of Ninigret Conservation Area) Charlestown  
 Charlestown Beach, Charlestown  
 Green Hill Beach, South Kingstown  
 East Matunuck-Jerusalem Beach, South Kingstown-Narragansett  
 Roger Wheeler Beach (Sand Hill Cove), Narragansett  
 Narragansett Beach, Narragansett  
 Bonnett Shores Beach, Narragansett  
 Mackerel Cove Beach, Jamestown  
 Hazard's Beach, Newport  
 Bailey's Beach, Newport  
 First (Easton's) Beach, Newport  
 Second (Sachuest) Beach, Middletown  
 Third Beach, Middletown  
 Tunipus (South Shore) Beach, Little Compton  
 Crescent Beach, New Shoreham  
 Coast Guard Beach, New Shoreham

Undeveloped

Napatree Beach, Westerly  
 Maschaug Beach, Westerly  
 Quonochontaug Beach, Westerly-Charlestown  
 East Beach (Ninigret Conservation Area to Breachway  
 Charlestown  
 Moonstone Beach, South Kingstown  
 Browning Beach, South Kingstown  
 Watchhouse Pond Beach, Little Compton  
 Long Pond Beach, Little Compton  
 Round Pond Beach, Little Compton  
 Briggs Beach, Little Compton  
 Ship Pond Cove, Little Compton  
 Round Meadow Pond Beach, Little Compton  
 Quicksand Pond Beach, Little Compton  
 Sandy Point, New Shoreham  
 West Beach, New Shoreham

Comment

A number of small barrier beaches and physically similar features (cusped beaches and recurved spits) are present in Narragansett Bay. The Council is considering assigning these features to a Developed and Undeveloped Barrier Beach category and applying the same policies and regulations to proposals to alter them.

Casey Point, North Kingstown  
 Bissill Cove, North Kingstown\*

Greene Point, North Kingstown  
 Tibbitts Creek, North Kingstown

Mary's Creek, Warwick  
 Baker's Creek, Warwick  
 Buttonwoods Cove, Warwick  
 Conimicut Point, Warwick  
 Gaspee Point, Warwick  
 Nayatt Point, Barrington\*  
 Mussachuk Creek, Barrington  
 Rumstick Point, Barrington  
 Hog Island, Bristol (2)\*  
 Musselbed shoals, Portsmouth  
 Nag Pond, Portsmouth  
 Jenny Pond, Portsmouth\*

Gull Point, Portsmouth  
 Coggeshall/Sheep Pen Coves, Portsmouth  
 McCarry Point, Portsmouth  
 High Hill Marsh Barrier, Little Compton\*  
 Fogland Point, Tiverton\*  
 Sapowet Point Barrier, Tiverton\*  
 Sakonnet Inner Harbor Barrier, Little Compton\*  
 Fox Hill Pond, Jamestown

\*According to Dr. Jon Boothroyd (URI Geology Department) these features are barrier beaches formed by the longshore drift of sediments.

takes the form of "rolling over" whereby sand is eroded from the ocean beach and washed over the barrier into the pond behind. The peat sometimes seen along the present ocean shore of barrier beaches is evidence of the past existence of a marsh that once flourished behind an older, more seaward barrier. This same flexibility makes barrier beaches particularly ill suited to human occupation. Not only do buildings weaken the dunes but during major hurricanes debris from shattered structures is swept inland on flood waters causing additional destruction to low-lying mainland areas, endangering more lives, increasing property damage and complicating cleanup efforts. Approximately 65 percent of Rhode Island's 27.3 miles of ocean fronting barrier beaches are undeveloped. The recreational opportunities and uniquely beautiful open space they provide are of immediate and growing benefit in an increasingly developed region.

3. Within Narragansett Bay there are a number of small barrier beaches that are also highly susceptible to damage during major storms. With few exceptions, these barriers have not been developed and provide locally important natural areas of great beauty and often considerable recreational value.

### .3 Goal

1. On barrier beaches classified as undeveloped in Table 4, the Council's goal is to preserve, protect, and where possible, restore these features as conservation areas and as buffers that protect salt ponds and the mainland from storms and hurricanes.

2. On barrier beaches classified as developed in Table 4, the Council's goal is to assure that the risks of storm damage and erosion to those inhabiting these features are minimized and that activities that may reduce the effectiveness of the barrier as a storm buffer are



avoided.

#### .4 Policies

1. Construction is prohibited on undeveloped barriers except where the primary purpose of the project is restoration or improvement of the feature as a conservation area and storm buffer.

### 220-3 COASTAL WETLANDS

#### .1 Definitions

Coastal wetlands include (a) salt marshes and (b) freshwater or brackish wetlands associated with and contiguous to salt marshes.

Salt marshes are regularly inundated by salt water through either natural or artificial water courses and where one or more of the following species predominate: smooth cordgrass (Spartina alterniflora), salt meadow grass (Spartina patens), salt grass (Distichlis spicata), black rush (Juncus gerardi), saltworts (Salicornia spp.), sea lavender (Limonium carolinianum), salt marsh bulrushes (Scirpus spp.), high tide bush (Iva frutescens).

Contiguous and associated freshwater or brackish marshes are those where one or more of the following species predominate: Tall reed (Phragmites communis), tall cordgrass (Spartina pectinata), broadleaf cattail (Typha latifolia), spike rush (Eleocharis rostellata), chairmaker's rush (Scirpus americana), creeping bentgrass (Agrostis palustris), sweet grass (Hierochloe odorata), wild rye (Elymus virginicus).

#### .2 Findings

1. Coastal wetlands are important for a variety of reasons. They provide rood and shelter for an abundance of juvenile fish and are important nurseries for several species of fish. The mud flats and creeks associated with many coastal wetlands are rich in shellfish,

particularly soft shelled clams. Coastal wetlands also provide essential habitat for shorebirds and waterfowl and many are among the most scenic features of the Rhode Island shore. Coastal wetlands are effective in slowing erosion along protected shores.

2. Much of the original acreage of coastal wetlands in Rhode Island has been destroyed, and the pressures to fill coastal wetlands continue. Downtown Providence, much of Quonset and many other low-lying coastal communities are built on what was once coastal wetland. We do not know how much coastal wetland has been destroyed by development but some 10 percent of our coastal wetlands of 40 acres or more are reported to have been filled between 1955 and 1964. Since coastal wetlands are found in sheltered waters, they frequently coincide with attractive sites for marinas and waterfront homes. Most of the salt wetlands that remain are small, and when viewed in isolation, many appear to be of insignificant value. The pressures to fill in or otherwise alter coastal wetlands therefore remain. According to a 1975 survey, there are some 3,700 acres of salt marsh in the state, of which some 10 percent were fringe marshes less than five yards wide.

3. The Council recognizes that in some instances it will be necessary to alter coastal wetlands, and conversely that it may at times have the opportunity to create new ones. The Council has sponsored research to investigate the feasibility of rating the relative values of individual coastal wetlands. Two years of research revealed that it is not possible to separate coastal methods into different categories if all ecological values are given equal weight. The study also showed that there is little if any correlation between the perceived aesthetic value of a coastal wetland and its ecological characteristics.

4. Land uses and activities abutting coastal wetlands may have a

strong impact upon the wetland itself. Nearby drainage patterns which affect siltation and the salinity of waters may easily be altered with detrimental effects. Wildlife must be protected from harassment. Bulkheading and filling along the inland perimeter of a marsh prevents further inland migration of wetland vegetation as sea level rises.

### .3 Goal

1. The Council's goal is to preserve and where possible restore coastal wetlands.

### .4 Policies

1. The Council recognizes that the disturbance of small isolated areas of coastal wetland may be unavoidable on shorelines abutting Type 3, 4, 5 and 6 waters. The Council may permit alterations to such small wetlands where proposed activities conform to Council policies for these waters and there is no reasonable alternative to the disturbance.

2. The Council may require persons who alter salt marshes with a Council Assent to build a replacement coastal wetland of similar size in an area designated by the Council.

## 220-4. COASTAL CLIFFS AND BANKS

### .1 Definition

Coastal cliffs and banks are the seaward face of any elevated landform directly abutting coastal waters, a beach, coastal wetland or rocky shore; does not include sand dunes (Type 1).

### .2 Findings

1. Coastal cliffs and banks include a wide variety of land forms ranging from low scarps of easily erodible glacial outwash to the dramatic rocky shores of Newport and Narragansett. Exposed banks of unconsolidated material, such as those along the Matunuck shore in South Kingstown have been known to recede by as much as 30 feet in a single

hurricane. On Block Island the equally erodible Mohegan Bluffs have been surprisingly stable for many decades. Human activities can greatly increase the susceptibility of banks to erosion. Structures close to a bank or bluff face can make it unstable and channelization of runoff and devegetation can cause a marked acceleration in erosion. Many of the state's most popular scenic overlooks are associated with cliffs and bluffs. More than 300,000 people visit Newport's Cliff Walk each year.

2. Eroding bluffs and banks can be important sources of sediment to nearby beaches. The bluffs of Watch Hill in Westerly, for example are probably an important source of sand to the south shore barrier beaches. Extensive rip-rapping of this shore may have a detrimental effect on these apparently distance and unconnected features.

### .3 Goals

The Council's goal is (a) to protect coastal cliffs and banks from activities and alterations that may damage the values of these features as sources of sediment to beaches and as a buffer against storm waves and flooding and (b) to prevent any construction in contiguous areas that may weaken the feature and has the potential of creating a hazard.

### .4 Policies

1. The Council shall preserve and protect the aesthetic values of such important features as the Newport Cliffs (Newport and Middletown), Mohegan Bluffs (Block Island) and the Hazard Rocks (Narragansett).

## 220-5 ROCKY SHORES

### .1 Definition

Rocky shores include naturally occurring shorelines composed of bedrock or boulder-strewn areas extending from below mean low water to above mean high water marks. They frequently contain tide pools.

### .2 Findings

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1. Rocky shores play an important role in storm damage prevention and provide habitat to specially adapted assemblages of organisms. Gently sloping terraces of bedrock and boulder strewn areas dissipate wave energy and are effective buffers that protect the mainland from storm damage. Rocky shores harbor a diversity of specially adapted plants and animals that can withstand both wave action and occasional dessication. Tide pools are particularly beautiful features that should be protected.

### .3 Goal

The Council's goal is to preserve and protect these features for values in erosion prevention and for the unique assemblages of organisms that they may support.

## 220-6 EXISTING MANMADE SHORELINES

### .1 Definition

Existing manmade shorelines include structures directly abutting tidal or coastal pond waters, barrier beaches, coastal beaches, dunes, coastal wetlands, coastal cliffs and bluffs and rocky shores that have been built as shoreline protection facilities to control erosion or sustain landforms adjacent to the water; includes seawalls, bulkheads, revetments, groins, jetties, and wharves.

### .2 Findings

1. A 1978 survey of the Narragansett Bay shoreline revealed that along 25 percent of the shore natural features have been sheathed by manmade structures. Many of these have been built since the 1954 hurricane as attempts at "erosion prevention" undertaken at great cost by private property owners. Many will not survive a major hurricane that strikes the coast from the south. Many structures are overbuilt for the control of minor erosion between major storms.

2. Manmade shorelines usually have a major impact on the appearance of the shore, interfere with public access to and along the coast and may alter erosion-accretion processes on neighboring beaches.

.3 Goal

The Council's goals are (a) to encourage the maintenance of structures that effectively mitigate erosion and/or sustain landforms adjacent to the water (b) prevent the accumulation of debris along the shore where such structures are ineffective or no longer in active use.

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PART THREE

ACTIVITIES UNDER COUNCIL JURISDICTION

**310-1 FILLING, REMOVING OR GRADING OF SHORELINE FEATURES**

.1 Definition

Filling: the deposition of materials of upland origin onto shoreline features (see Sec. 310-9 for on-land disposal of dredge materials).

Removing: the process of taking away (including excavation, blasting, or mining for commercial purposes) any portion of a shoreline feature.

Grading: the process whereby fill or the soils of a shoreline feature are redistributed or levelled.

Notes:

1. Agricultural practices are excluded from these regulations.
2. Filling, removing or grading activities shall be reviewed at the Category B level when:
  - a. the filling or removing involves more than 2000 cubic yards of material, or
  - b. the affected area is greater than one acre.

.3 Policies:

1. It is the Council's policy to discourage and minimize filling, removal and grading on shoreline features.

.4 Prohibitions and Prerequisites

1. Placing fill on coastal wetlands or on undeveloped barrier beaches is prohibited. This prohibition does not apply to approved filling and grading for beach nourishment purposes.
2. The removal of soils from coastal wetlands or undeveloped barrier beaches is prohibited except when related to an approved mosquito control ditching project.
3. Beach material (cobbles, sand, etc.) may not be used as

construction material.

4. Mining is prohibited on coastal features.

#### .5 Category B Burdens of Evidence

1. Applicants shall:

- a. demonstrate that there is a need for the proposed alteration.
- b. describe potential impacts on scenic quality, and on the abundance and diversity of plant and animal life.
- c. describe potential impacts on public access to tidal waters and/or the shore.

#### .6 Standards

1. When the alteration of a shoreline feature is a necessary part of an approved project, the practice of cutting into a coastal bank (removal) is preferred to filling out over it.
2. Erosion at a construction site shall be controlled, as necessary, through the use of hay bales, check dams, jute matting, berms, siltation curtains, and the like. Collected water shall be discharged through drains or swales.
3. Disturbed uplands adjacent to a constructed facility shall be graded and revegetated or otherwise stabilized to prevent erosion immediately after construction.
4. Removal or placement of sediments along jetties or groins may be permitted only as part of an approved dredging or beach nourishment project (see Sections 310+8 and 310+9).

### **310-2 CONSTRUCTION OF RESIDENTIAL BUILDINGS AND ASSOCIATED STRUCTURES**

#### .1 Definition

Residential buildings and associated structures include<sup>2</sup> houses, cabanas, decks, walls, boardwalks, swimming pools, roads, driveways,



parking lots (and other structures associated with residential development) built on a shoreline feature.

### .3 Policies

1. The Council's policy is that coastal development should be guided by the following principles:

a. relate development to the physical capabilities of the land, particularly the characteristics of soils present at the site.

b. relate the intensity of development to availability of public service.

c. recognize the areawide impact of some development decisions

d. protect valuable natural resources and unique or significant areas.

e. reserve suitable sites for needed economic development

f. provide adequate housing for all residents.

g. encourage the visual quality of development.

### .4 Prohibitions and Prerequisites

1. The use of poured cement pilings to support buildings in flood hazard V-zones is prohibited.

2. The use of fill for structural support of buildings in flood hazard V-zones is prohibited.

### .5 Standards

1. General

a. See standards for Filling, Grading or Removal (Section 310-1) as applicable.

b. See standards for Sewage Treatment and Disposal (Section 310-5) as applicable.

2. Residential Buildings

a. The lowest floor, including the basement, shall be elevated to or above the base flood elevation established through Federal Flood Hazard regulations. Buildings shall meet all applicable state Building Code standards.

b. Excavation and grading shall be restricted to those activities and areas necessary for the actual construction of the building and/or appurtenant structures (see Section 310-1).

c. In order to reduce the inflow of pollutants carried by surface runoff, permeable surfaces for driveways and parking areas shall be utilized whenever feasible for shoreline features adjacent to Type 1, 2, and 3 waters.

d. Persons proposing to add to existing residential structures or to make interior modifications that result in additional rooms shall obtain a Change of Use Determination from the ISDS Section of the Department of Environmental Management that certifies that the existing ISDS is capable of adequately treating sewage effluents.

### 3. Residential Construction in Coastal High Hazard Areas

#### a. In wave velocity (V) zones

(1) Dwellings constructed in V zones shall be anchored to pilings in accordance with the standards of the Rhode Island State Building Code for construction in Flood Hazard areas.

(2) All pilings shall meet American Society for Testing and Materials (ASTM) standards for class B piles. Either wooden piles with minimum tip diameter of 8 inches or precast reinforced concrete piling material may be used. Wooden pilings shall be treated with a wood preservative. Bracing between piles is required.

(3) Pilings shall penetrate no less than 10 feet below mean sea level.

(4) Applicants proposing to build in V zones in areas where a dune 20 feet or more above MSL is not present to buffer the building from hurricane waves shall be required to elevate the lowest structural members of the floor six feet above the 100-year flood level as established on Flood Insurance Rate Maps.

(5) Floor joists will be secured with hurricane clips where each joist encounters a floor beam. These metal fasteners or straps shall be nailed on the joist as well as on the beam.

(6) To secure the exterior wall to the floor joists, galvanized metal strap connections must be used connecting the exterior wall studs to the joists.

(7) Roof pitch shall be greater than 40 degrees. Roof trusses or rafters shall be placed 16 to 24 inches on center, and shall be connected to the exterior wall with galvanized metal straps.

(8) All windows shall meet manufacturers standards for wind loads of 100 mph.

(9) The space below the lowest floor and between pilings shall be kept free of obstruction or enclosed with "breakaway walls" designed to collapse under stress so that the impact on the structural integrity of the dwelling by abnormally high tides or wind driven water is minimized. Such temporarily enclosed spaces shall not be used for human habitation or for the enclosure of any utility or item essential to the structure.

(10) All plans submitted to the CRMC for buildings proposed for V zones shall be stamped by a registered professional engineer or architect.

b. Residential Construction in Coastal Stillwater Flood (A) Zones

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(1) Lowest floor elevation including basements of houses in A zones shall be elevated to the 100-year level as established on Flood Insurance Rate Maps.

(2) Parallel concrete walls or pilings rather than fill shall be used when a structure must be elevated more than 50 percent above the stillwater flood level. When such walls are used, standard (9) above for building in V zones ~~apply~~ <sup>do not</sup> apply.

(3) Standards (5), (6), and (7) for building in V zones apply.

### **310-3 RECREATIONAL BOATING FACILITIES**

#### .1 Definitions

Recreational boating facilities include marinas, launching ramps, residential boating facilities, recreational wharves, piers and slips, floats or floating docks, and recreational mooring areas.

1. Marina: any dock, pier, wharf, float, or combination of such facilities that service five or more recreational boats as a commercial enterprise or in association with a club.

2. Launching ramp: a manmade or natural facility extending below mean low water used for the launching and retrieval of boats.

3. Residential boating facility: a dock, pier, wharf, or float or combination of such facilities contiguous to a private residence that may accommodate up to four boats.

4. Recreational wharves, piers, and slips: fixed structures extending out from shore into the water that serve as a landing or docking place for water craft or serve other recreational purposes.

5. Recreation floats or floating dock: A floating structure that serves as a docking place for water craft or is used for other recreational purposes.

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6. Recreational mooring areas: designated water areas where five or more recreational craft are kept at moorings.

### .3 Policies

1. The Council encourages marinas to utilize techniques that make the most efficient use of space and increased demands for moorage, dockage, and storage space by considering dry stack storage, innovative slip and mooring configurations and the like.

2. In order to limit the cumulative impacts of many individuals' residential boating facilities, the Council encourages the construction of facilities that service a number of users.

3. The Council recognizes that the United States Coast Guard has primary authority over navigational aids and marine boating safety, and that these responsibilities are complemented by the R.I. Department of Environmental Management, local harbormasters, and public boating service organizations such as the Coast Guard Auxiliary.

4. The Council requires municipalities preparing to implement harbor management programs and/or regulations relating to activities and structures in tidal waters to apply for a Council Assent to assure conformance between such programs and/or regulations, the Council's Program and Plans and the General Laws of the State of Rhode Island.

### . 4 Prohibitions and Prerequisites

1. Persons proposing to establish a new marina will, in most instances, require a permit from the Army Corps of Engineers.

2. Persons proposing to establish a commercial mooring area will have to obtain a permit from the Army Corps of Engineers.

3. The building of new marinas in Type 1 and 2 waters is prohibited.

### . 5 Category B Burdens of Evidence for the Construction of New Marinas

1. Applicants shall:
  - a. demonstrate that there is a need for the proposed marina;
  - b. describe potential impacts on the abundance and diversity of plant and animal life;
  - c. describe potential impacts on water circulation and flushing;
  - d. describe the compatibility of the proposed marina with existing activities in the vicinity including, as applicable, the residential and/or business community adjacent to the facility, public access to tidal waters and along the shore, fishing, aquaculture, boating, and commercial navigation.

2. An application for a Council Assent for a marina and/or mooring area will include a map and/or aerial photograph, prepared and stamped by a professional engineer, and/or land surveyor or architect that designates the area of tidal water that will be incorporated within the marina.

3. Marina and/or mooring operators with Council Assents may alter the layouts of the facility to provide for a change of up to 25 percent in the number of boats that may be accommodated at the marina as defined in the original Council Assent; such alterations shall in no case extend the facility beyond the perimeter defined in the original Council Assent. In cases where proposals are made to alter the layout of an existing marina for which the boundaries of the water area have not been designated, the Council shall designate the water area within which alterations may take place. When alterations to the layout as described herein are proposed, the Council shall be notified in writing at least ten days prior to undertaking such activities and the marina operator shall obtain Council approval certifying that the boat capacity

alterations, if any, meets the 25 percent standard and the Council's standards for parking and sanitary facilities.

#### .6 Standards for Marinas

1. Sufficient sanitary facilities shall be provided to service the patrons of the marina.

2. Holding tank pumpout facilities shall be provided as needed.

3. Sufficient parking shall be provided for the patrons of the marina. A standard of 300 square feet is required for each parking space; the guideline for the total number of parking spaces provided is two boat slips or moorings for each parking space.

4. Discharge of sanitary wastes to tidal waters from boats using the facility by devices other than those approved by the U.S. Coast Guard is prohibited.

#### .7 Standards for Launching Ramps:

1. Ramps shall be constructed at an angle no greater than 15 percent from the horizontal. Where upland modification is necessary, the slope will be created where possible by cutting back into the upland, rather than by placing fill on a shoreline feature.

2. Ramps will extend a sufficient distance inland to prevent washout at the inland edge and shall extend a minimum of 3 feet beyond extreme low water. Single lane ramp width shall not be less than 15 feet.

3. Where a form of pavement is necessary in areas of unconsolidated sediment, ramps will be constructed using 6 inch x 6 inch by 12 feet resistant concrete ties connected with galvanized steel rods placed perpendicular to the slope of the ramp, and packed within and underlain by 6 inches of crushed stone.

#### .8 Standards for Residential Docks, Piers and Floats

1. Applications for all residential recreational boating facilities shall indicate all work associated with access to these structures; a bottom survey showing water depths and sediment types along the length of the proposed structure shall also be provided. All pathways, boardwalks, cutting or filling of coastal features, shall be specified. All such work shall be in accordance with CRMC standards for Grading, Filling and Removing (Section 310-1) and Construction of Buildings and Associated Structures (Section 310-2).

2. All residential piers and floating docks shall be built with pile bents spaced a minimum of 15 feet apart.

3. Where possible, piles shall penetrate a minimum of 10 feet into the sediment. Piles shall have a minimum cross section of 15 square inches.

4. Fixed structures shall be capable of supporting 40 lbs. per square foot live load; floating structures shall be capable of supporting 20 lbs. per square foot live load.

5. Non-leaching wood preservatives shall be used for all wooden portions of the structure except decking.

6. To permit light penetration the minimum spacing between plank decking shall be 1/2 inch. Deck boards shall be no less than 1 inch thick and shall be supported by stringers with a minimum cross section of 2 x 8 inches or the equivalent.

7. Standard dock or pier width is 4 feet; standard float size shall not exceed 150 square feet.

8. To allow public access along the shore, piers and docks shall provide a stairway or maintain a minimum 5-foot clearance over the intertidal area.

9. Floatation devices shall be securely contained. All expanded



polystyrene (open cell, white foam floatation) shall be encased in vinyl or other materials that prevent breakage and release of floatation fragments into tidal waters.

10. Galvanized connections shall be used.

11. Where possible, piers shall span coastal wetlands; when pilings are placed within coastal wetlands, only the immediate area of piling penetration may be disturbed. Construction in a coastal wetland shall be accomplished by working out from completed sections. No construction equipment shall traverse the wetland while the facility is being built.

12. Access to shoreline or piers from the top of an unconsolidated embankment shall be from a set of stairs elevated above the feature and not by way of a path.

13. Owners are required to maintain their facilities in good working condition. Facilities may not be abandoned.

14. Float ramps and other marine appurtenances or equipment shall not be stored on a coastal wetland, shoreline embankment, or in any area designated as a buffer zone.

15. The use of crib structural support shall be avoided. Where unavoidable, they shall be designed and stamped by a registered professional engineer or architect.

16. Residential boating facilities shall not intrude into the area within 10 feet of an extension of abutting property lines, unless:

a. It is to be a common structure for two or more adjoining owners, concurrently applying, or

b. Letter(s) of no objection from affected owner(s) are forwarded to the CRMC staff, ~~with the application.~~

17. Residential boating facilities shall not extend beyond that

point which is:

a. 25 percent of the distance to the opposite shore (measured from mean low water), or

b. 50 feet seaward of mean low water, whichever is the lower.

#### 310-4 MOORING AND ANCHORING OF HOUSEBOATS AND FLOATING BUSINESSES

##### .1 DEFINITIONS

Houseboat - a building constructed on a raft or hull that is used primarily for single or multiple-family habitation; if used for transportation this use is secondary.

Floating business - a building constructed on a raft or hull that is represented as a place of business including waterborne hotels and restaurants.

##### .3 Policies

1. The Council considers that placement of houseboats and floating businesses in tidal waters is a low priority use of any coastal waterbody and is acceptable only in strictly limited numbers and only in specific areas. Houseboats and floating businesses are not classified as water dependent since it is not their primary purpose to serve as a means of on-water transportation or recreation.

2. When in transit, a houseboat or floating business is considered a boat or vessel and must meet all applicable state and Coast Guard standards and regulations.

##### .4 Prohibitions and Prerequisites

1. Houseboats and floating businesses are prohibited from berthing or mooring in coastal ponds and in all other Type 1 and 2 waters.

2. Houseboats are prohibited from mooring or anchoring in all other tidal waters of the state unless within the boundaries of a marina.

3. Floating businesses are prohibited from mooring or anchoring in all tidal waters of the state unless within the boundaries of a marina or a port.

4. Discharge of sanitary wastes to tidal waters from houseboats or floating businesses using marina or port facilities by devices other than those approved by the U.S. Coast Guard is prohibited.

#### .5 Category B Burdens of Evidence

1. Applicants for floating businesses shall:

a. demonstrate that there will be no significant deterioration in the quality of the water in the immediate vicinity.

b. demonstrate that there will be no significant conflict with such water dependent uses and activities as recreational boating, fishing, navigation, commerce and aesthetic enjoyment of the waterfront.

#### .6 Standards

1. Applicants for either houseboats or floating businesses shall meet standards #1, 5, 9, 13, and 14 for Recreational Boating Facilities - Residential Docks, Piers and Floats (Section 310-3).

2. Houseboats and floating businesses shall tie into marina or port holding tank pumpout facilities where available.

### **310-5 SEWAGE TREATMENT AND DISPOSAL**

#### 1. Definitions

1. Sewage: The Council has adopted the definition of sewage set forth under Title 46, Chapter 12, Section 1 of the General Laws, to wit: "...any human or animal excremental liquid or substance, any decomposed animal or vegetable matter, garbage, offal, filth, waste, chemicals, acid, dyestuff, starch, coloring matter, oil and tar, radioactive substances and any compound, solution, mixture or product thereof, and

every substance which may be injurious to public health or comfort, or which would injuriously affect the natural and healthy propagation, growth or development of any fish or shellfish in the water of this state, or of the nourishment of the same, or which would injuriously affect the flavor, taste, or value of food of any such fish or shellfish or which would defile said waters or injure or defile any vessel, boat, wharf, pier, or any public or private property upon, in or under said waters or any shore thereof."

For purposes of the Coastal Resources Management Program "sewage" is further defined to include freshwater discharges that may significantly alter the salinity of tidal waters or salt ponds. The term "sewage" also includes discharges of heated waters.

2. Building Sewer: A pipe which begins outside the building wall and extends to a public sewer, septic tank, or other place of sewage disposal, including a pressure or gravity sewer to a leaching system.

3. Individual Sewage Disposal System (ISDS): Any arrangement for sanitary sewage disposal by means other than discharge into a public sewer system.

4. Point Source Discharges: Any conveyance including, but not limited to, any pipe, ditch, channel, tunnel, conduit, container, transport vehicle or vessel from which sewage is or may be discharged.

### .3 Policies

1. It is the Council's policy to maintain and where possible improve the quality of groundwater and tidal and salt pond surface waters.

2. It is the Council's policy to minimize the amount of ISDS derived nitrates and other potential contaminants which may leach into salt ponds and all other Type 1, 2, and 3 waters.

3. Applicants for Assents for ISDS are encouraged to meet on site with CRMC staff prior to undertaking of ISDS groundwater and soils tests to discuss the location of the system and buffer zones.

.4 Prohibitions and Prerequisites

1. Applicants for Council Assents to construct, alter, or extend individual sewage disposal systems or point source discharges shall first obtain a permit from the Department of Environmental Management.

2. Point source discharges are prohibited on unconsolidated coastal banks and bluffs.

. 5 Category B Burdens of Evidence for Point Source Discharge of Wastewaters (excluding surface runoff)

1. Applicants shall:
  - a. demonstrate that there is a need for the proposed facility;
  - b. describe the anticipated volumes and timing of discharges and the characteristics of the effluents;
  - c. describe the boundaries of the water area that is anticipated to be affected by the discharge;
  - d. describe potential impacts on the abundance and diversity of plant and animal life;
  - e. describe potential impacts on existing activities including, as applicable, swimming, fishing, aquaculture, and boating;
  - f. describe potential impacts on public access to tidal waters and along the shore;

.6 Category B Burdens of Evidence for Sewage Treatment Facilities (excluding ISDS)

1. Applicants shall:
  - a. demonstrate that there is a need for the proposed facility;
  - b. describe the anticipated volumes and the general

characteristics of the effluent;

c. describe the boundaries of the water area that is anticipated to be affected by the discharge;

d. describe the potential impacts on the abundance and diversity of plant and animal life;

e. describe potential impacts on existing activities including, as applicable, swimming, fishing, aquaculture and boating;

f. describe the potential impacts on the value of nearby properties within the Council's jurisdiction;

g. demonstrate that all local zoning ordinances, construction codes, and other environmental requirements have been met.

#### .7 Standards for Above Surface Wastewater Sewage Treatment Facilities

1. See Standards for Filling, Removing, and Grading (Section 310-1).

2. See Standards for Commercial/Industrial Facilities/Operation (Section 310-7).

3. All standards of the Division of Land Resources of the Department of Environmental Management relative to water discharges shall be met and upheld.

4. All federal (EPA) discharge and/or pretreatment regulations under the National Pollution Discharge Elimination System (NPDES) shall be met.

5. The Council shall formally review proposed actions only after all other applicable state/local requirements have been met. However, the Council will comment on preliminary plans for major facilities to assist in the planning process.

#### .8 Standards for Individual Sewage Disposal Systems (ISDS):

1. See standards for Filling, Removing and Grading (Section

310.1).

2. All standards of the ISDS Section, Division of Land Resources of the Department of Environmental Management shall be met and upheld.

3. Grading around the ISDS shall direct the flow of surface runoff water away from the ISDS.

4. Subdrains constructed to lower groundwater levels in areas where ISDS systems shall be built shall:

- a. have a minimum pipe diameter of 6 inches
- b. have no piping located between the anticipated ISDS and the shore
- c. be constructed so as to prevent clogging by soil fines
- d. have outfalls suitably protected against shoreline erosion and scour

5. When existing buildings are to be expanded or substantially modified by adding one or more rooms, a "Change of Use Determination" shall be obtained from the Department of Environmental Management's ISDS Office that certifies that the existing ISDS is capable of adequately treating sewage effluents.

6. Connections to ISDSs that are abandoned shall be removed, blocked or otherwise disconnected.

7. The following standard may also apply:

a. Construction of Buildings and Associated Structures (Section 310.2).

#### .9 Standards for Point Discharges of Surface Runoff Waters

1. Concentrated runoff shall be minimized. The use of sheet flow through natural vegetated areas, or the use of grassy drainage swales for clean water discharge is preferable to direct discharge through a conduit or other piping. Wherever necessary, drainage swales shall be

constructed along and adjacent to property lines so as to avoid drainage of water onto adjacent properties. Swales shall be capable of adequately handling runoff from a 10-year storm (see Soil Conservation Service's Erosion and Sediment Control Handbook for Rhode Island).

2. Catchment basins shall be employed when necessary to reduce runoff induced infiltration of particulates into water bodies; however, where runoff must be directed to a coastal wetland of Type 1 or 2 waters, the use of swales alone shall be the preferred means of control. A maintenance and cleaning program for catchment basins shall be detailed.

### 310.6 CONSTRUCTION OF SHORELINE PROTECTION FACILITIES

#### 1. Definitions

Shoreline Protection Facilities include breakwaters, groins, bulkheads, jetties, and other structures, the purpose or effect of which is to control, or prevent, the erosion of coastal features.

Rip-rap: A foundation <sup>or</sup> ~~of~~ sustaining wall of stones placed together without mortar.

Groin: A structure built of rock, steel, timber, or concrete that extends from a beach into tidal waters and is used to entrap sand; groins are generally perpendicular to the shoreline's coastal trend.

Breakwaters and jetties: Fixed or floating structures that protect a shore, harbor, anchorage or basin by intercepting waves.

Bulkhead: A structure or partition built to retain or prevent sliding of the land and protect the inland area against damage from waves.

Seawall: A massive bulkhead with a vertical, curved, or stepped face designed to withstand the direct onslaught of ocean waves.

Revetment: A structure built to armor a sloping shoreline face



composed of one or more layers of stone or concrete rip-rap. A revetment blankets, and generally conforms to the contours of a coastal feature.

### .3 Policies

1. The Council favors nonstructural methods for controlling erosion.
2. Rip-rap revetments are preferred to vertical steel, timber, or concrete seawalls and bulkheads except in areas bordering on Type 5 waters and in ports and marinas.

### .4 Prohibitions and prerequisites

1. Army Corps of Engineers permits are required for structural forms of shoreline protection facilities below extreme high water.
2. Structural forms of shoreline protection are prohibited on barrier beaches and in or along the shores of Type 1 waters.

### .5 Category B Burdens of Evidence

1. Applicants shall evaluate the feasibility of non-structural methods and, if they are deemed unsuitable, shall state reasons for this conclusion.
2. Applicants for structural measures to control erosion shall:
  - a. demonstrate that the proposed structure has a reasonable probability of controlling the erosion problem;
  - b. demonstrate that the proposed structure is not likely to increase erosion in adjacent areas;
  - c. demonstrate that the proposed structure is an appropriate solution to the erosion problem considering the long term rate of erosion in the area, the likely effects of major storms and hurricanes and the stability of the shoreline on either side of the proposed project;

d. describe potential impacts on the abundance and diversity of plant and animal life;

e. describe potential impacts on public access to tidal waters and along the shore.

3. Applicants for breakwaters and jetties shall demonstrate that the proposed structure is necessary to provide protection to a commercial marina, port, or harbor.

4. Applicants for breakwaters and jetties shall provide an evaluation of the structure's potential for interrupting the longshore movements of sediments. If such an interruption is likely to be significant, the applicant shall design a sand bypass system or other measures that will assure that the effects on sediment transport shall not cause significant erosion along nearby shores.

#### .6 Standards

1. The base of the seawall, bulkhead, or revetment must be located as close as practicable to the shoreline feature it is designed to protect; structural shoreline protection facilities shall be placed landward of coastal wetlands.

2. The base of all shoreline protection structures built of unconsolidated sediments shall, at a minimum, extend to a depth equivalent to mean low water.

3. To promote good drainage behind seawalls and bulkheads, and to minimize the flow of sediment into waterways, all backfill shall be coarse, clean, and free-draining. If soils in the area are fine grained, a filtering layer shall be placed behind and/or beneath the structure consisting of suitably graded stone or rock chips or engineering filter fabric. *When filter fabric is used, it shall be placed on a layer of coarse sand or gravel.*

4. The slope of revetments shall not exceed 40 percent.

5. Rock or precast concrete rip-rap revetment material shall be fitted together, not dumped on the shore or embankment. The ends of rip-rap revetments shall be tied into the embankment.

6. Rip-rap revetments shall be constructed of angular stone with a minimum unit weight of 165 lbs. per cubic foot. The size of stone shall be dependent upon the site's exposure to wave energy in accordance with the following guidelines:

| Fetch (nautical miles) | Weight (lb.)   | Size (cubic yards) |
|------------------------|----------------|--------------------|
| 1                      | 400            | 1/10               |
| 2                      | 1000           | 1/4                |
| 3                      | 2500           | 1/2                |
| 4                      | 5000           | 1                  |
| 5 & greater            | 8000 & greater | 2 & greater        |

The above assumes no more than a 40 percent slope and one layer of filled stone.

7. Seawalls and bulkheads which are not supported with earth anchors shall have a base width which equals a minimum of 40 percent of total wall height.

8. Concrete used for wall construction along the shore and in tidal waters shall be resistant to the sulfate attack of seawater; Type 11 Portland Cement or an equivalent or superior substitute shall be used.

9. Immediately after construction, all groins must be filled to entrapment capacity with sediment.

10. Floating tire breakwaters may be permitted for seasonal use only after which they must be removed to an upland location; all tires must be branded or otherwise marked and the owner of the floating breakwater shall be liable for cleanup costs if they break loose.

310-7 INDUSTRIAL STRUCTURES AND OPERATIONS; COMMERCIAL STRUCTURES;  
PUBLIC RECREATION STRUCTURES

.1 Definitions

1. Industrial operations and structures on a shoreline feature or within the tidal waters that are treated under this section include:

- a. solid waste disposal
- b. minerals extraction
- c. chemical processing, transfer and storage
- d. power generation
- e. petroleum processing transfer and storage

2. Commercial structures include all buildings related to the manufacturing and interchange of goods or commodities, or any other business activity.

3. Public recreational structures include cabanas, pavilions, walkways, decks, and other structures constructed for public recreational purposes.

.3 Prohibitions and Prerequisites

1. Industrial operations and structures are prohibited in Type 1 and 2 waters or on shoreline features abutting these waters.

2. A moratorium is in effect on the mining and extraction of minerals, including sand and gravel, from tidal waters and salt ponds pending detailed information of the potential environmental impacts of such activities. This moratorium does not apply to dredging for navigation purposes, channel maintenance, habitat restoration or beach replenishment.

.4 Category B Burdens of Evidence

1. Applicants for all structures and operations included under this section on shoreline features and/or within tidal waters shall:

a. demonstrate that there is a need for the proposed structure or operation

b. demonstrate that all applicable local zoning ordinances, building codes, flood hazard standards, and all state safety codes, fire codes, and environmental requirements have been met;

c. demonstrate that public water service and sewage disposal and treatment facilities are available where onsite water withdrawal and/or sewage disposal is unacceptable for environmental or public health reasons;

d. demonstrate that adequate transportation and utility service to support the proposed operations and related activities are available;

e. demonstrate that appropriate steps have been taken to minimize any adverse aesthetic impacts;

f. describe potential impacts on erosional and depositional processes along the shore and in tidal waters;

g. describe potential impacts on circulation and flushing of tidal waters;

h. describe potential impacts on the abundance and diversity of plant and animal life.

2. Additional burdens for Structures and Operations Abutting Type 5 waters shall demonstrate that the proposed operation:

a. requires access to navigable waters for purposes of transportation or transfer of materials or products or;

b. requires access to coastal waters for purposes of industrial cooling or processing.

3. Additional Burdens for Structures and Operations Related to Energy:

[REDACTED]

Applicants for activities involving power generation and petroleum processing, storage and transfer are referred to the 1978 Energy Amendments to the Rhode Island Coastal Resources Management Program for additional detailed standards. The following summary defines the scope of the topics that shall be addressed by applicants for power generating and petroleum processing and storage as they apply to construction, operation, decommissioning and waste disposal:

- a. environmental impacts
- b. social impacts
- c. economic impacts
- d. alternative sites
- e. alternative means to fulfill the need for the facility
- f. demonstration of need
- g. consistency with state and national energy policies
- h. shorefront sites shall demonstrate need for access to navigable waters or cooling and/or process water

The above standards for energy facilities do not have to be addressed if the proposal is for an electrical generating facility of less than 10 megawatts capacity or a petroleum storage facility is of less than 2,400 barrels capacity. Such small scale facilities shall be considered as Commercial (this section) or Residential Structures (Section 310.2).

#### .5 Standards

1. See standards for Filling, Removing or Grading of Shoreline Features (Section 310.1) as applicable.
  2. See standards for Sewage Treatment and Disposal (Section 310.5), as applicable.
- [REDACTED]

**310-8 Dredging**.1 Definitions

The excavation of sediments from beneath tidal and coastal pond waters by mechanical or hydraulic means.

Dredging for navigation purposes is divided into two categories by the Army Corps of Engineers: (a) improvement dredging includes new projects in previously undredged areas or the enlarging of existing channels and basins beyond previously authorized depths or boundaries; (b) maintenance dredging includes projects whose purpose is to restore authorized channels and basins to their original, previously authorized dimensions.

.3 Prohibitions and Prerequisites

1. Permits for maintenance and improvement dredging projects for navigational purposes must be obtained from the Army Corps of Engineers as well as the Council. Council and Army Corps requirements are designed to complement one another; applicants should consider the requirements of both agencies when preparing to begin the permit process.

2. Applicants must obtain a Water Quality Certification from the R.I. Department of Environmental Management.

3. No dredging for navigational purposes is permitted in Type 1 waters and only maintenance dredging may be permitted in Type 2 waters.

.4 Category B Burdens of Evidence

1. Applicants for all dredging projects shall:
  - a. demonstrate that there is a need for the project ;
  - b. provide accurate soundings in the area of the proposed dredging operation;
  - c. describe potential impacts upon marine fisheries and fisheries habitat or aquatic vegetation through release of toxins from

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disturbed sediment, changes in water depth and sediment type, destruction of spawning habitat, turbidity, smothering and changes in water circulation;

d. describe potential impacts upon flood control and the prevention of storm damage by removal of shallows that absorb wave energies by increasing water depth and therefore increasing wave height, and by creating erosion along adjacent shorelines;

e. describe potential environmental and economic impacts resulting from increased developments on adjacent shoreline features and increased boating traffic.

2. Applications for dredging in all waters classified SB and SC by the Department of Environmental Management shall include a bulk analysis of the sediments that will be removed. The CRMC may require analysis for specific pollutants that may be present that could contaminate adjacent areas.

3. Where fine-grained sediments will be removed, the applicant shall present to the CRMC information that can be used to evaluate whether use of siltation curtains to control the transport of material placed in suspension by dredging shall be used.

4. The applicant shall present to the CRMC information that can be used to evaluate whether dredging should be limited to specific times of the year in order to minimize odors or impacts on fish and shellfish.

### 310.9 DREDGED MATERIALS DISPOSAL

#### .1 Definition

The process of discharging, depositing, ~~or~~ dumping, utilizing the by-products of a dredging operation.

#### .3 Policies

1. The Council considers it of the utmost importance that suitable



solutions to the dredged material disposal problem be found.

All alternatives will be explored on a case by case basis.

2. The Council favors offshore open water disposal for disposing of large volumes of dredged material, providing that environmental impacts are minimized.

3. The Council encourages the use of innovative nearshore methods of dredged material disposal particularly when small volumes of material must be disposed. These options include fisheries habitat development, creation of wetlands and beach nourishment.

#### .4 Prohibitions and Prerequisites

1. The disposal of dredged material on or adjacent to coastal wetlands is prohibited unless associated with a program of wetland building or rehabilitation.

2. A water quality certification from the Department of Environmental Management is required for all disposal in Rhode Island tidal waters.

3. The Army Corps of Engineers requires a permit for dredged material disposal associated with navigational dredging projects. CRMC and Army Corps requirements are designed to complement one another and applicants should consider the requirements of both agencies before beginning the permitting process.

4. Upland disposal of dredged materials must comply with local ordinances.

5. A Hazardous Waste Certification may have to be obtained from the Department of Environmental Management before the disposal of highly polluted materials can be approved by the Council.

#### .5 Category B Burdens of Evidence

1. Applicants shall:

a. describe impacts on the abundance and diversity of plant and animal life;

b. describe the potential for turbidity, smothering, and changes in water circulation and flushing patterns;

c. describe potential changes in water depth and sediment type;

d. describe potential impacts on existing sedimentation and erosion processes;

e. describe potential impacts on existing activities in the vicinity, specifically including navigation, recreational boating, fishing, and aquaculture.

2. When fine-grained sediments must be deposited the applicant shall present to the CRMC information that can be used to evaluate whether siltation curtains or other devices to control the movement of particles placed in suspension is advisable.

3. The applicant shall present to the CRMC information that can be used to evaluate whether disposal should be limited to specific times of the year in order to minimize odors or impacts on fish and shellfish.

4. When dredged material is to be used to create new natural resource lands such as salt marsh, tidal flats, or islands, the applicant shall present to the CRMC information that can be used to identify potential interference with marine recreation, navigation, and commercial and/or recreational fishing.

5. When dredged materials are removed from a marine to an upland environment for disposal, the applicant shall demonstrate that the release of pollutants present in the materials shall not cause significant threats to ground water or cause other environmental degradation.

## .6 Standards

### General

1. See standards for Filling, Removing, or Grading (Section 310.1) as applicable.

### Offshore Open Water

1. Dredge materials may not be placed in areas considered by the CRMC to be prime fishing grounds.

2. Measures must be employed to ensure that all dredged materials will be dumped solely within the confines of an approved site.

3. Hydrographic conditions at the approved disposal site must be such that the disposed dredged materials will remain within the disposal area and that resuspension of bottom sediments will be minimal.

4. Following disposal operations involving polluted materials, clean coarse grained materials must be deposited to cap the spoil mound and minimize the release of any potential contaminants to the water column. The cap shall have a minimum thickness of six inches.

5. The applicant must provide for an environmental monitoring program for the disposal site designed to detail physical conditions and biological activity at and near the site for a period of one year. The results of such programs shall be made public.

### Creation of Wetlands, Aquatic Habitat, or Islands

1. Disposal sites must be in coves or similarly sheltered environments not prone to extensive wave or current energies yet subject to sufficient tidal action to ~~flush the marsh~~.

2. Dredged materials must be pumped or placed into a containment area that will permit sediment consolidation and prevent erosion.

3. The applicant must provide for an environmental monitoring program for the disposal site designed to detail physical conditions and

biological activity at and near the site for a period of one year. The results of such program shall be made public.

#### Upland Disposal

1. Dewatering of dredged materials shall occur behind a berm or bulkhead of sufficient height to contain the material.
2. After dewatering dredged material placed on uplands adjacent to tidal waters shall be vegetated or otherwise permanently stabilized.
3. Where dredged material is placed behind a wall or bulkhead:
  - a. the structure shall be suitably engineered to resist the pressures of the dredged material;
  - b. the material shall be prevented from seeping through the wall or bulkhead by the placement of an adequate filtering device.
  - c. all applicable standards listed for shoreline protection facilities (Section 310.6) shall be met.

#### Beach Nourishment

1. The placement of dredged materials on a beach is a preferred disposal alternative providing that the materials in question: a) are predominantly sands; b) contain low levels of contaminants.
2. In areas where the processes of littoral drift would result in significant re-entry of dredged sediments back into the navigable waterway dredged materials must be placed on the downdrift side of the inlet.
3. Where sand dunes or other shoreline features must be disturbed, the applicant shall restore the damaged area to approximate original conditions once beach nourishment has been completed.

### **310.10 FILLING IN TIDAL WATERS**

#### .1 Defintion

The deposition of materials from upland sources below the mean high

water mark.

### .3 Policies

It is the Council's policy to discourage and minimize the filling in of coastal waters. *(also Section 310.6 Fees)*

### .4 Prohibitions and Prerequisites

1. A water quality certification from the Department of Environmental Management may be required.
2. Filling of tidal waters requires an Assent from the Army Corps of Engineers.
3. Filling Type 1 and 2 waters is prohibited unless associated with a program of wetland building or habitat rehabilitation.

### .5 Category B Burdens of Evidence

1. The applicant shall:
  - a. demonstrate that there is a need for the project;
  - b. demonstrate that the proposed filling will be undertaken to create land that will be put to productive use and/or is a necessary element of an approved Shoreline Protection project (Section 310.6);
  - c. demonstrate that the project will not cause significant impacts to nearby properties resulting from increases in erosion or accretion processes;
  - d. demonstrate that the project will not cause significant stagnant or poorly flushed conditions as a result of changes in water circulation patterns;
  - e. demonstrate that all applicable local zoning ordinances, construction codes, municipal master plans, and other environmental requirements have been met.
2. The applicant shall:
  - a. describe potential impacts on erosional and depositional

processes;

b. describe potential impacts on the circulation and flushing of waters;

c. describe potential impacts on the abundance and diversity of plant and animal life.

## 310-11 AQUACULTURE

### .1 Definition

The culture of aquatic species under natural or artificial conditions in tidal waters and coastal ponds including but not limited to, fish farming utilizing pens, tanks or impoundments and the culture of shellfish on the sea floor or suspended in the water.

NOTE: Aquaculture conducted on land above mean high water and under Council jurisdiction shall be considered as a Commercial Operation (Section 310.7).

### .3 Policies

1. The Council shall utilize the 1981 Aquaculture Management Plan for Rhode Island Coastal Waters to assist in the identification of potential conflicts between proposed aquaculture activities and other activities in the area in question.

2. The Council shall consult with the Department of Environmental Management and the Marine Fisheries Council to ensure that proposed aquaculture projects are not in conflict with any fisheries management plan, program or regulation.

### .4 Category B Burdens of Evidence

1. Applicants proposing to undertake any aquaculture endeavor shall:

a. describe the location and size of the area proposed;

b. identify the species to be managed or cultivated within the

permitted area and over which the applicant shall have exclusive right;

c. describe the method or manner of management or cultivation to be utilized;

d. provide such other information as may be necessary for the Council to determine:

(1) the compatibility of the proposal with other existing and potential uses of the area and areas contiguous to it including navigation, recreation, and fisheries;

(2) the degree of exclusivity required for aquacultural activities on the proposed site;

(3) the safety and security of equipment including appropriate marking of the equipment and/or lease area;

(4) impacts upon water quality and resident species;

(5) impacts upon indigenous fisheries;

(6) the projected per unit area yield of harvestable product;

(7) the cumulative impact of a particular aquaculture proposal in an area in addition to other aquaculture operations already in place;

(8) the capability of the applicant to carry out the proposed activity;

(9) impacts on and compatibility with existing activities in the vicinity, specifically including navigation, recreational boating, and commercial and recreational fishing, *and visual quality*

#### .5 Standards

1. In the event of revocation of any lease of Assent, the lessee or Assent holder is responsible for restoring the area to preexisting conditions within six months from the date of permit revocation. This

shall include the removal of all structures, rafts, floats, markers, buoys, anchors, and other equipment brought to the site.

2. Any person who maliciously and willfully destroys, vandalizes or otherwise disrupts aquacultural activities permitted by the Council shall be in violation of an order of the Council and liable to all fines and penalties under law.

#### .6 Fees

1. A Council permit for proposed aquacultural activities, excluding seasonally deployed aquaculture apparatus such as spat collectors, will be in the form of a lease. The annual rental fee is seventy-five dollars (\$75.00) for half an acre or less, one hundred and fifty dollars (\$150.00) for a half to one acre, and one hundred dollars (\$100.00) for each additional acre. Annual rental fees shall be payable in full, in advance, on the first business day in the month of January of each rental year. Leases shall be for a term not to exceed ten years and shall be renewable upon application of the permittee for successive periods of up to five years each. Any assignment or sublease of the whole or any portion of a leased area shall constitute a breach of the lease and cause for termination of the lease, unless such assignment or subletting has received the prior approval of the Council.

2. In the event a lessee fails to make full payment of the annual rental fee by the first business day of the month of February of each rental year, the lease agreement shall be terminated, and all permits and authorities granted under this section shall be revoked. In the event the leased area is not actively used for a period of more than two years, the lease shall be terminated, and all licenses and authorities granted thereunder revoked. Lease holders shall be notified 60 days prior to such revocation and may appeal the Council's decision.



3. Persons wishing to deploy small scale seasonal apparatus such as spat collectors shall apply for a Council Assent and will not be charged a rental fee.

#### 310.12 MOSQUITO DITCHING

##### .1 Definition

The maintenance and construction of ditches in coastal wetlands in order to enhance tidal flushing and thereby reduce and control mosquito breeding sites.

##### .3 Policies

1. The Council recognizes the nuisance caused by large breeding populations of mosquitoes in portions of some coastal wetlands. The Council recognizes that the problem can be effectively controlled by good wetland management practices that include ditch construction and maintenance and in some cases the limited use of pesticides.

##### .4 Prohibitions and Prerequisites

1. Mosquito control programs in any coastal wetland area will be considered only when authorization from the DEM Division of Fish and Wildlife, the R.I. Mosquito Abatement Board, and the local municipality have been obtained.

2. The practice of applying broad spectrum persistent pesticides on any coastal wetland area is prohibited.

##### .5 Standards

1. Ditching undertaken as part of the mosquito control program shall be minimal and where possible shall utilize Open Marsh Water Management techniques.

2. Marsh sediments excavated during ditch construction shall be spread thinly along the sides of the ditch in order to prevent ponding on the marsh surface and reduce impacts on growing marsh vegetation.

3. Ditches shall be no more than 24 inches wide and not less than two feet deep.

310-13 PUBLIC ROADWAYS, BRIDGES AND PARKING LOTS, RAILROAD LINES AND AIRPORTS

.1 Definition

All public roadways, bridges, parking lots, railroad lines, airports, and associated structures built on a shoreline feature, or over tidal waters.

.3 Prohibitions and Prerequisites

1. The construction of transportation facilities in Type 1 and 2 waters is prohibited.

2. The construction of transportation facilities (with the exception of approved unpaved vehicle trails and parking areas) on undeveloped barrier beaches is prohibited.

.4 Category B Burdens of Evidence

1. Applicants shall demonstrate that there is a need for the proposed facility.

2. Applicants shall:

a. describe potential impacts upon sedimentation and erosion processes, water circulation and flushing rates and patterns;

b. describe potential impacts on abundance and diversity of plant and animal life;

c. describe potential impacts on scenic quality;

d. describe potential impacts on public access to tidal and/or along the shore;

e. describe potential impacts on and compatibility with existing activities in the vicinity specifically including navigation, recreational boating, fishing, and aquaculture.

3. Applicants shall demonstrate that all practicable means are taken to minimize direct flows of runoff water into tidal waters and coastal wetlands.

#### .5 Standards

1. See standard for Filling, Removing, or Grading of Coastal Lands (Section 310.1).

2. Permeable materials shall be utilized where practicable to surface roadways and parking lots on shoreline features adjacent to Types 1, 2, 3, and 4 waters.

### 320 ALTERATIONS TO FRESHWATER FLOWS TO TIDAL WATERS AND WATERBODIES AND COASTAL PONDS

#### .1 Definitions

Alterations to the flows of tributaries include the installation of dams or other devices to withhold or reduce the flows of tributaries to tidal waters or additions of freshwater to such tributaries that significantly increase their ~~seasonal~~ discharge.

Alterations to the circulation of tidal waters include all structures <sup>that</sup> ~~designed~~ to alter the behavior of waters within tidal water bodies including the removal of tidal waters for industrial cooling or other purposes and the installation of <sup>structures</sup> ~~tidal gates~~ in embayments and salt ponds that alter the volumes and/or timing of exchange with outlying tidal waters.

#### .3 Policies

1. The Council recognizes that alterations to the volume of freshwater discharged to estuarine waterbodies can have a significant effect on the species and abundance of organisms present in the estuary and may also cause changes to sedimentation, erosion patterns, and flooding.

2. The Council recognizes the importance of maintaining and enhancing anadromous fish runs and will consult with the Department of Environmental Management when considering proposals that may affect these features.

#### .4 Prohibitions and Prerequisites

1. The construction of dams, tidal gates, and other structures affecting flows of tributaries and the circulation of tidal water bodies may require a U.S. Army Corps of Engineers permit.

#### .5 Category B Burdens of Evidence

1. Applicants proposing to alter the circulation of tidal waters and/or the flows of tributaries shall:

a. describe the boundaries of the tidal area that is anticipated to be affected;

b. describe the volumes and timing of the water that will be withheld, added, or otherwise affected;

c. describe the potential effects of the alteration on plant and animal life and existing activities in the affected tidal area including any anticipated change to the water quality classification of the tidal waterbody;

d. describe the potential effects of the alteration on sedimentation, erosion, and flooding.

#### .6 Standards

1. See Standards for Filling, Removing, or Grading of Shoreline Features as applicable (Section 310.1).

2. See Standards for Shoreline Protection Facilities as applicable (Section 310.6).

3. See Standards for Sewage Disposal (Point Discharges) as applicable (Section 310.5).

330 INLAND ACTIVITIES AND ALTERATIONS THAT MAY BE SUBJECT TO COUNCIL  
PERMITTING

.1 Definitions

The activities and alterations inland of shoreline features and tidal waters and within state boundaries that may require a Council Assent are:

1. solid waste disposal;
2. minerals extraction;
3. chemical processing, transfer, and storage;
4. power generation (excluding facilities of less than 10 megawatts capacity);
5. petroleum processing transfer and storage (excluding storage facilities of less than 2400 barrells capacity);
6. sewage treatment and disposal.

.3 Prohibitions and Prerequisites

1. Persons proposing to construct and operate facilities 1 through 6 above shall obtain the following permits before requesting that the Council review their proposal:

a. Solid waste disposal: permits from the Department of Environmental Management (DEM) required pursuant to the Solid Waste Management Act; an Air Quality Permit will have to be obtained from DEM if disposal practices include incineration. Disposal of hazardous wastes requires DEM permits pursuant to the R.I. Hazardous Waste Management Program and EPA permits.

b. Minerals extraction: DEM may require a wetlands permit and a Water Quality Certification; the U.S. Department of Interior, Office of

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Surface Mining issues permits for mining operations not including sand and gravel extraction.

c. Chemical processing, transfer and storage: DEM may require permits pursuant to the Solid Waste Management Act, an Air Quality Permit, the R.I. Hazardous Waste Management Program, a Water Quality Certificate and a Spill Contingency Plan. The EPA Region 1 may require a NPDES permit.

d. Power generation: persons proposing a hydroelectric plant are required by DEM to obtain a Wetlands Permit, Dam Safety Certificate and a Water Quality Certificate; a Preliminary Permit will also have to be obtained from the Federal Energy Regulatory Commission (FERC). Other power generating facilities may require a DEM Air Quality Certificate, Water Quality Certificate, and Spill Contingency Plan. A NPDES permit may have to be obtained from EPA Region 1.

e. Petroleum processing transfer and storage: DEM may require an Air Quality Certificate, a Water Quality Certificate and a Spill Contingency Plan.

f. Sewage treatment and disposal: DEM requires an ISDS Permit for on-site sanitary sewage disposal; other facilities may require a DEM Water Quality Certificate, approval of the DEM Division of Water Resources and a NPDES permit from EPA Region 1.

#### .4 Category B Burdens of Evidence

1. Applicants proposing energy related facilities are referred to the Energy Amendments adopted by the Council in 1978.

2. Persons proposing residential subdivisions of six units or more within coastal cities and towns are required to submit the following information to the Council for review:

\*a. A soils map of the property (suggested scale 1:200) with an

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accompanying analysis of the best use potential of the soils present; the soils maps and use potentials analysis prepared by the U.S. Soil Conservation Service should be used as the basis for this analysis.

b. An overlay map showing the principal vegetation types or any significant features identified by the Natural Heritage Program of the Department of Environmental Management and the Historic Preservation Commission on the property; the maps prepared by McConnell (19 ) and Kupa and Whitman (19 ) may be the basis for information on vegetation.

c. An overlay showing surface drainage patterns and, where available, information on the depth to groundwater and the direction and volume of groundwater flows.

d. An overlay showing the proposed subdivision layout, including buildings, roadways, parking areas, drainage systems, sewage treatment and disposal facilities and undisturbed lands. This information shall be reviewed at a conference with the developer to identify the potential for impacts on the environment of the coastal region, whether a Council Assent shall be required and, where appropriate, suitable measures to mitigate impacts on the environment of the coastal region.

#### Comments

The current Program calls for a review by the Council of all individual sewage disposal systems (ISDS) in coastal cities and towns. Such case-by-case review does not permit the Council to consider the cumulative effects of residential development. This is invariably the key issue in areas where the impacts of residential development on coastal resources and the quality of the coastal environment can be severe. The Council, through its authority over sewage treatment and disposal, is therefore proposing to review new subdivisions at the

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earliest stage of planning and to focus on the potential impacts of the entire subdivision. If, on the basis of the review it is concluded that a Council Assent is required, the stipulations of an Assent shall be incorporated in the deeds of individual lot owners. If individual lot owners do not deviate from these stipulations they will not be required to apply to the Council for reviews and/or Assents.

The Council's review of proposed subdivisions will be coordinated with that of the town authorities that follow a pre-application conference procedure.

The Council is considering a similar procedure for evaluating other types of large-scale developments in coastal cities and towns that may have an impact on the environment of the coastal region. The basis for such reviews would be the creation of impermeable surfaces (parking areas, buildings, surfaced lay-down yards, etc.) with an area of one acre or more.

3. Applicants proposing other activities and alterations other than those treated through the 1978 Energy Amendments and that may be subject to Council permitting shall demonstrate beyond a reasonable doubt:

a. that the proposed activity or alteration will not introduce substances in groundwaters or tributaries that may affect quality of tidal or coastal pond waters specifically including the concentrations of coliform bacteria, nitrates, oxygen, and other substances that may effect the abundance and diversity of plant and animal life or access to shellfish;

b. that the proposed activity or alteration will not generate alterations to coastal features or tidal waters that conflict with the Council's Program or adopted Special Area Management Plans.

If the Council determines that a significant impact on a



resource under Council jurisdiction is likely, it shall inform the person proposing the activity or alteration that a Council Assent is required and which sections of the Program and/or adopted Special Area Management Plan must be addressed.

In those cases where the Council finds that the potential impacts resulting from the proposed activity or alteration to be significantly at variance with its goals for the effected area or resources, it shall either deny its Assent, or require the applicant to apply for a Special Exception, or require suitable modification to the proposal.

#### .4 Policies

The policies for Construction of Residential Buildings and Associated Structures (Section 310-2) and Sewage Treatment and Disposal (Section 310-5) apply to the activities treated in this Section.

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